STR-D390/D590

SERVICE MANUAL

US Model
Canadian Model
UK Model
STR-D390/D590

E Model
STR-D390

Photo : STR-D590

SPECIFICATIONS

Audio Power Specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 8-ohm load, both channels driven, from 40 - 20,000 Hz, rated 60(STR-D590)/40(STR-D390) watts per channel minimum RMS power, with less than 0.8% total harmonic distortion from 250 milliwatts to rated output.

Other Specifications

Amplifier section

Continuous RMS power output (8 ohms, at 1kHz less than 0.8% total harmonic distortion)
- 70W+70W(STR-D590 : US/Canadian model)
- 60W+60W(STR-D590 : UK model)
- 50W+50W(STR-D390)

Dynamic power (at 1 kHz IHF)
- 75W+75W(8 ohms)(STR-D590 : US/Canadian model)
- 65W+65W(8 ohms)(STR-D590 : UK model)
- 55W+55W(8 ohms)(STR-D390)
- 80W+80W(4 ohms)(STR-D590 : US/Canadian model)
- 50W+50W(4 ohms)(STR-D390)

Harmonid distortion
- Less than 0.8% at rated output

Power output of surround amplifier (4 ohms, at 1 kHz less than 0.8% total harmonic distortion)
- 10W

Frequency response
- PHONO : RIAA equalization curve ±0.5 dB
- CD, VIDEO, TAPE : 10 Hz — 50 kHz $^{+0}_{-5}$ dB

Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	2.5 mV	50 kilohms	74 dB 72 dB* (A, 2.5 mV)
CD / VIDEO 1, 2 / TAPE (STR-D590)	150 mV	50 kilohms	95 dB 80 dB* (A, 150 mV)
CD / VIDEO / TAPE 1, 2 (STR-D390)	200 mV		

* 78 IHF

Outputs

REC OUT, VIDEO 1 (AUDIO) OUT	Voltage : 150 mV (STR-D590) : 200 mV (STR-D390) Impedance 10 kilohms
SPEAKER A, B	Accepts speakers of 8—16 ohms
HEADPHONES	Accepts low and high impedance headphones

Tone controls
- BASS : ±10 dB at 100 Hz
- TREBLE : ±10 dB at 10 kHz

Muting (STR-D590)
- —20 dB

DBFB (STR-D590)
- +10 dB at 70 Hz

Variable loudness control (STR-D390)
- +6 dB at 100 Hz (MAX)

— Continued on next page —

FM STEREO/FM-AM RECEIVER

SONY®

Video section (STR-D590)

INPUT	VIDEO 1, 2	1 Vp-p 75 ohms
OUTPUT	VIDEO 1 MONITOR	1 Vp-p 75 ohms

Tuner section

	FM tuner section	AM tuner section
Tuning range	87.5—108 MHz	530—1710 kHz (10 kHz step) / 531—1710 kHz (9 kHz step) (US, Canadian model) 530—1710 kHz (10 kHz step) / 531—1602 kHz (9 kHz step) (E model) 531—1602 kHz (UK model)
Antenna terminals	300 ohms, balanced 75 ohms, unbalanced	External antenna terminal
Sensitivity at 50 dB quieting	18.3 dBf, 4.5 μV(mono) (STR-D590 : US/Canadian model, STR-D390 except UK model) 18.3 dBf, 2.25 μV, 75 ohms (mono)(UK model) 38.3 dBf, 45 μV(stereo) (STR-D590 : US/Canadian model, STR-D390 except UK model) 38.3 dBf, 22.5 μV, 75 ohms (stereo)(UK model)	
Usable sensitivity	11.2 dBf, 2 μV (IHF) (STR-D590 : US/Canadian model, STR-D390 except UK model) 11.2 dBf, 1 μV (IHF) (UK model)	Loop antenna : 500 μV (at 1,000 kHz)
Singal-to-noise ratio	76 dB (mono) (STR-D590 : US/Canadian model, STR-D390 except UK model) 70 dB (mono)(UK model) 70 dB (stereo) (STR-D590 : US/Canadian model, STR-D390 except UK model) 66 dB (stereo)(UK model)	54 dB (at 50 mV/m)
Harmonic distortion	0.3% (mono), 0.5%(stereo) at 1 kHz	0.5% (at 50mV/m, 400 Hz)
Selectivity	60 dB at 400 kHz	40 dB at 10 kHz (STR-D590 : US/Canadian model, STR-D390) 30 dB at 9 kHz (STR-D590 : UK model)
Separation	45 dB at 1 kHz	
Frequency response	30 Hz—15 kHz $^{+0.5}_{-2}$ dB	

General

System
- Tuner sectin : PLL quartz-locked digital synthesizer system
- Preamplifier section : low-noise NF type equalizer amp
- Power amplifier section : pure complementary SEPP

Power requirements
- 120V AC, 60 Hz (STR-D590 : US/Canadian model, STR-D390 : US/Canadian model)
- 240V AC, 50 Hz (UK model)
- 220V AC, 50 Hz or 120V, 240V AC, adjustable, 50/60 Hz (E model)

Power consumption
- 140 W (STR-D590 : US model)
- 150 W (STR-D590 : Canadian model)
- 110 W (STR-D390 : Canadian model)
- 100 W (STR-D390 : E model)
- 5W : In standby condition

AC outlet
- One switched
  - 120 W/1A Max. (STR-D590 : US/Canadian model, STR-D390 : US/Candian model)
  - 100 W/1A Max. (UK, E model)

Dimensions
- Approx. 430×135×300 mm (w/h/d) (17×5 $^{3}/_{8}$ ×11 $^{7}/_{8}$ inches) including projecting parts and controls

Weight
- Approx. 6.3 kg (13 lb 15 oz) (STR-D390 : UK model)
- Approx. 6.5 kg (14 lb 6 oz) (STR-D590, STR-D390 : US/E model)
- Approx. 5.7 kg (12 lb 10 oz) (STR-D390 : Canadian model)

Accessories supplied
- FM wire antenna (1)
- AM loop antenna (1)
- Remote Commander
  - RM-U222 (1) (STR-D590)
  - RM-U223 (1) (STR-D390 : Canadian model)
  - RM-S103 (1) (STR-D390 : US, UK, E model)
- Sony batteries SUM-3 (NS) (2)

Design and specifications are subject to change without notice.

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

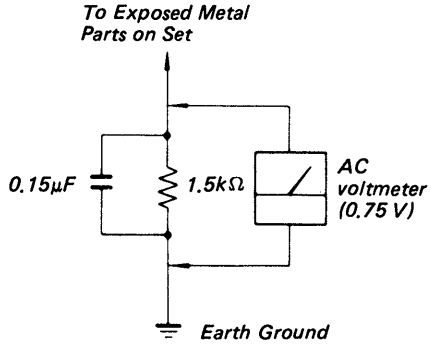
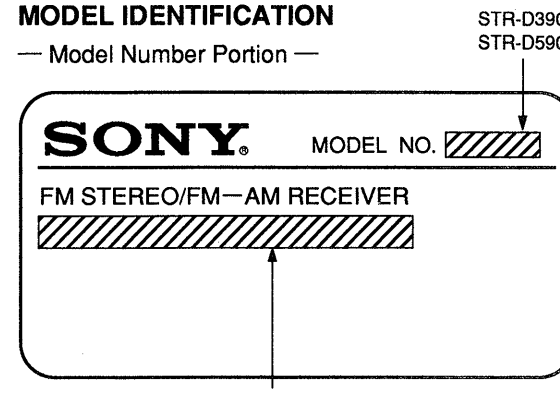


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION

— Model Number Portion —



US, Canadian model : AC 120V 60Hz
UK model : AC 240V 50Hz
E model : AC 110—120V/220—240V 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

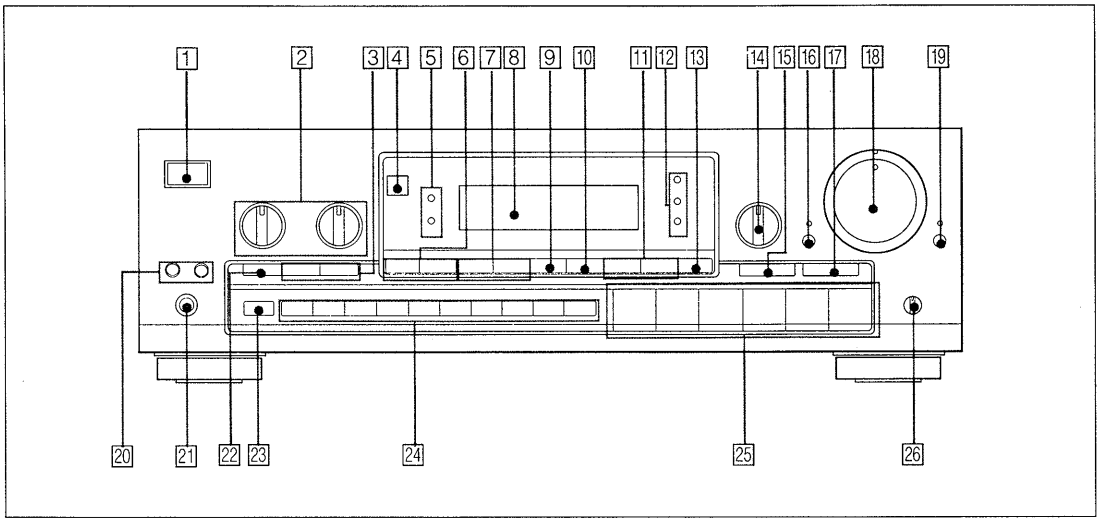
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Parts Identification

Front Panel



1 POWER switch

2 BASS/TREBLE TONE controls

3 REAR LEVEL +/– buttons (STR-D590)

4 Remote control sensor

5 VIDEO 1/2 indicators (STR-D590)

6 TUNING +/– buttons

7 PRESET TUNING +/– buttons

8 Display window

9 MEMORY button

10 FM MODE button

11 FM/AM BAND selectors

12 SURROUND MODE indicators (STR-D590)
MONITOR indicator (STR-D390)

13 TUNING DIRECT button

14 BALANCE control

15 SURROUND MODE selector (STR-D590)

16 MUTING switch and indicator (STR-D590)

17 SOUND FIELD ON/OFF button (STR-D590)

18 MASTER VOLUME control

19 DBFB (Dynamic Bass Feed Back) button and indicator (STR-D590)

20 SPEAKERS A/B buttons

21 HEADPHONES jack

22 DELAY TIME (S, M, L) selector (STR-D590)

23 SHIFT button

24 Numeric buttons

25 Function selectors

26 INPUT BALANCE control (STR-D590)
LOUDNESS control (STR-D390)

SECTION 2
IC PIN ASSIGNMENT

• μPD75206GF-726-3BE (1/2)

PIN No.	SIGNAL NAME	FUNCTION	I/O
1	RESET	Micro Computer RESET	I
2	T0	FL tube indication (invalid) digit	0
3	T1	FL tube indication digit	0
4	T2	FL tube indication digit	0
5	T3	FL tube indication digit	0
6	T4	FL tube indication digit	0
7	T5	FL tube indication digit	0
8	T6	FL tube indication digit	0
9	T7	FL tube indication digit	0
10	T8	FL tube indication digit	0
11	T9	FL tube signal indication digit	0
12	T10/PH3	SURR.C/MONITOR OUTPUT	0
13	T11/PH2	SURR.B OUTPUT	0
14	T12/PH1	SURR.A OUTPUT	0
15	T13/PH0	-20dB Muting Output	0
16	T14/S11	FL tube indication Segment/Diode	0
17	T15/S10	FL tube indication Segment/Diode	0
18	V road	FL tube pulldown power supply	-
19	V pre	FL tube driver power supply	-
20	S9	FL tube indication Segment/Diode	0
21	S8	FL tube indication Segment/Key Scan	0
22	S7	FL tube indication Segment/Key Scan	0
23	S6	FL tube indication Segment/Key Scan	0
24	S5	FL tube indication Segment/Key Scan	0
25	S4	FL tube indication Segment/Key Scan	0
26	V_{DD}	Micro Computer power supply	-
27	S3	FL tube indication Segment/Key Scan	0
28	S2	FL tube indication Segment/Key Scan	0
29	S1	FL tube indication Segment/Key Scan	0
30	S0	FL tube indication Segment/Key Scan	0
31	P00/INT4	Signal to cut power supply	I
32	P01/SCK	Serial latch for electrical sdjustment use	I

PIN No.	SIGNAL NAME	FUNCTION	I/O
33	P02/S0	Tuner Auto Stop input	I
34	P03/S1	Tuner Stereo input	I
35	P10/INT0	Remote Control Signal input	I
36	P11/INT1	Protector input	I
37	P12/INT2	System Power Key input	I
38	P13/T10	IF Data input	I
39	P20	DBFB output	0
40	P21	Video Control A	0
41	P22	Video Control B	0
42	P23/BUZ	Video Control C	0
43	P30	Protector Muting	0
44	P31	SURR. RY	0
45	P32	Standby LED Output	0
46	P33	Tuner Muting	0
47	P60	PLL/7822 Latch	0
48	P61	PLL/7822/SI Data	I/0
49	P62	PLL/7822/SI Clock	I/0
50	P63	LV1001 latch	0
51	P40	Function Muting	0
52	P41	Motor Volume UP	0
53	P42	Motor Volume DOWN	0
54	P43	Speaker Relay	0
55	PP0	Power Relay	0
56	X1	Ceramic Oscillator	-
57	X2	Ceramic Oscillator	-
58	V_{SS}	Micro Computer GND	-
59	XT1	—	-
60	XT2	—	-
61	P50	Key Scan input	I
62	P51	Key Scan input	I
63	P52	Key Scan input	I
64	P53	Key Scan input	I

· LV1001M (1/2)

PIN No.	FUNCTION
1	De-couple capacitor for threshold voltage
2	Capacitor for smoothing of rectifier output
3	Capacitor for sliding band filter and Delayed output
4	Capacitor for sliding band filter
5	Capacitor for pre-emphasis
6	Input filter for rectifier
7	Input filter for rectifier
8	Reference voltage-1
9	Reference voltage-2
10	Mute control
11	Vcc
12	Output for V_{DD}
13	Clock input for serial input, data input for parallel input mode
14	Data input for serial input, data input for parallel input mode
15	Column address selection for serial input, data input for parallel input mode
16	Row address selection for serial input, data input for parallel input mode
17	V_{DD}
18	Connection to memory device (A7)
19	Connection to memory device (A5)
20	Connection to memory device (A4)
21	Connection to memory device (A3)
22	Connection to memory device (A6)
23	Connection to memory device (DIN)
24	Connection to memory device (*CAS)
25	V_{SS}
26	Connection to memory device (AB)
27	Connection to memory device (DOUT)
28	Connection to memory device (*WE)
29	Connection to memory device (*RAS)
30	Connection to memory device (A0)
31	Connection to memory device (A2)
32	Connection to memory device (A1)

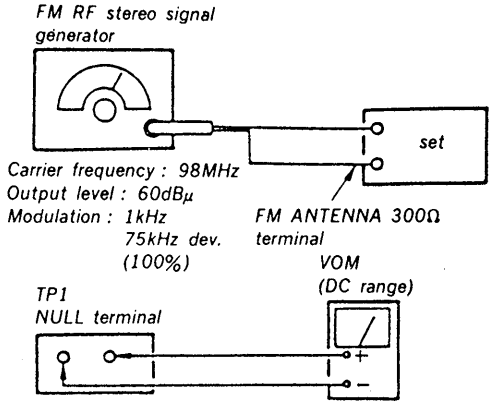
PIN No.	FUNCTION
33	X'tal resonator for oscillator
34	X'tal resonator for oscillator
35	Long or Short mode selection
36	Serial or Parallel mode selection
37	For rest mode
38	Smooting for NR rectifir
39	Smooting for NR rectifir
40	Capacitor for weighting on side chain path
41	Input for Variable resistor
42	NR output
43	7kHz low pass filter output
44	Input for NR
45	Capacitor for de-couple on NR
46	Delay output or NR output
47	Input for mute circuit
48	Output for mute circuit
49	Output for 7kHz low pass filter
50	Input for 7kHz low pass filter
51	GND
52	Input for right channel
53	Input for left channel
54	Capacitor for de-couple on Fixed matrix output
55	Noise shaping and delay input
56	Noise shaping output
57	Delay input signal mode select switch (L+R/L-R)
58	Filter for supply voltage on comparator
59	Input filter for rectifier
60	Input filter for rectifier
61	Capacitor for pre-emphasis
62	Capacitor for sliding band filter
63	Capacitor for sliding band filter and local decoder output
64	Capacitor for smoothing of rectifier output

SECTION 3
ELECTRICAL ADJUSTMENTS

FM SECTION

• FM Discriminator (NULL) Adjustment

Setting :



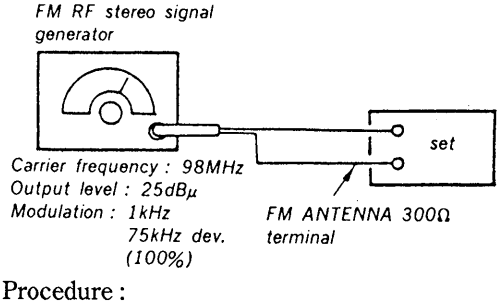
Procedure :

1. Tune the set to 98MHz.
2. Adjust T21 for 0V reading on the VOM.

Note : FM Tuning Level adjustment should be made after FM discriminator adjustment.

• FM Stereo Operation Level Adjustment

Setting :

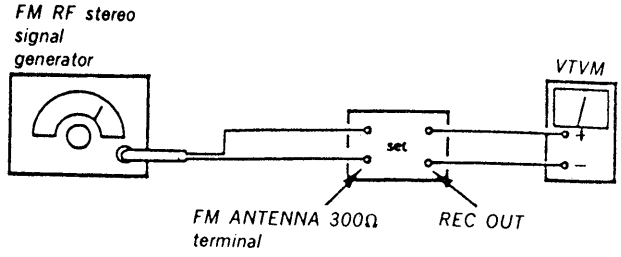


Procedure :

1. Tune the set to 98MHz.
2. Adjust RV24 so that the STEREO LED goes on.

• FM Stereo Separation Adjustment

Setting :



Carrier frequency : 98MHz
Output level : 60dBμ
Modulation :
Audio (1kHz) : 33.75kHz dev. (45%)
Pilot (19kHz) : 7.5kHz dev. (10%)
Sub-channel (38kHz) : 33.75kHz dev. (45%)

Procedure :

Tune the set to 98Mhz.

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV21 for minimum reading
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV21 for minimum reading

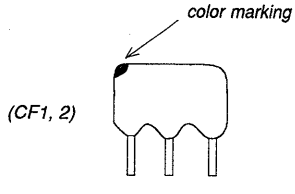
L-CH Stereo separation : Ⓐ — Ⓑ

R-CH Stereo separation : Ⓒ — Ⓓ

The separations of both channels should be equal.

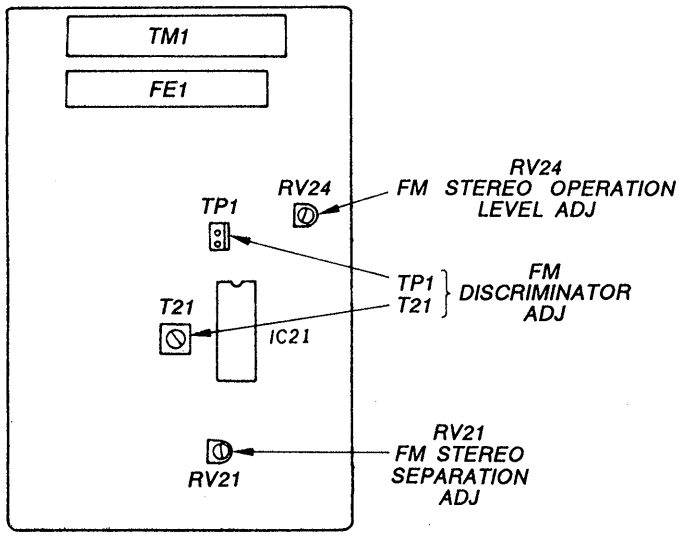
Note on Ceramic Filter (CF1, 2) Replacement.

This set employs two ceramic filters (CF1, 2) which should have the same color marking to identify their center frequency. Therfore FM IF offset adjustment by (＊A, ＊B) connection is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.



○ : short
× : open

Ceramic filter		Connection		FM intermediate frequency (MHz)
Color mark	Center Frequency (MHz)	＊A (D125)	＊B (D124)	
White	10.750	×	○	10.750
Red	10.700	×	×	10.700
Black	10.650	○	○	10.650


TM1
FE1
RV24
TP1
RV24
FM STEREO OPERATION
LEVEL ADJ
TP1
T21
FM
DISCRIMINATOR
ADJ
T21
IC21
RV21
RV21
FM STEREO
SEPARATION
ADJ

SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS -MAINS Section-

· See page 29, 30 Circuit Board Location and Semiconductor Lead Layouts.

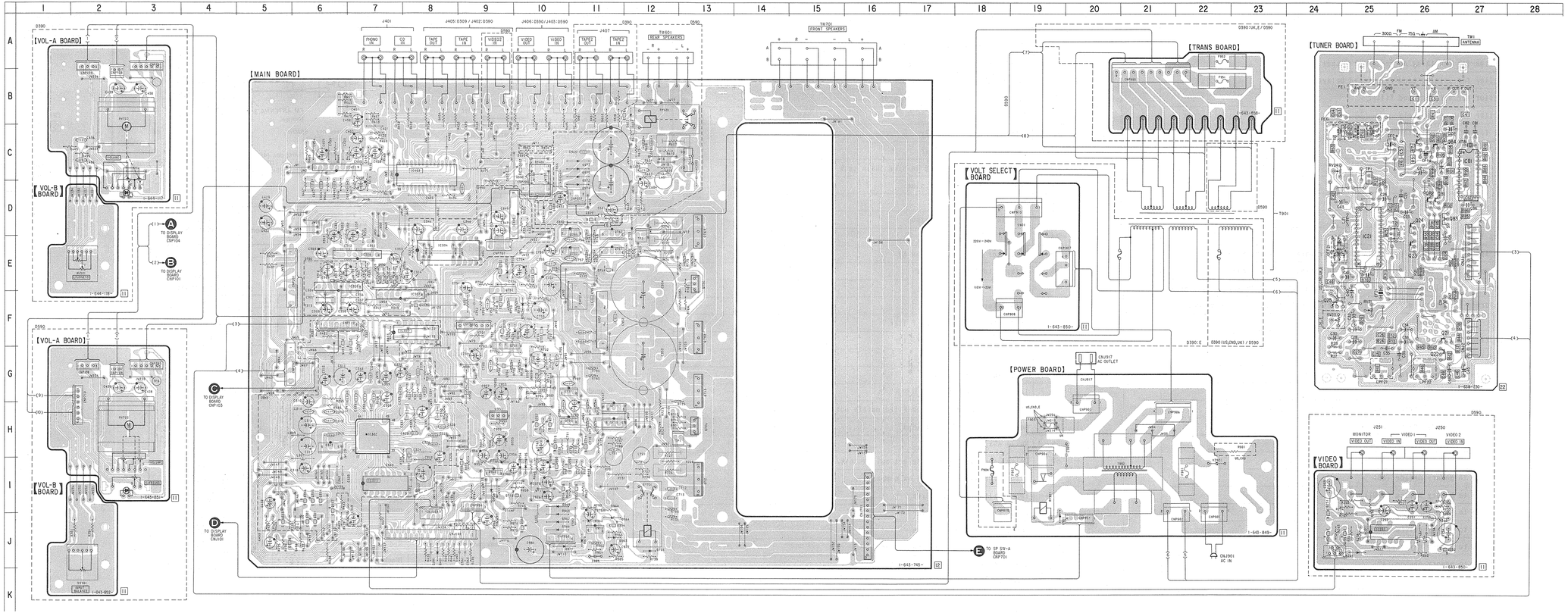
● **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D201	J-25	Q1	C-26	Q753	E-10
D401	J-8	Q21	F-26	Q754	F-9
D403	D-10	Q22	G-26	Q755	D-11
D602	B-12	Q23	E-26	Q756	E-13
D701	F-9	Q24	D-26	Q757	E-11
D702	G-10	Q25	F-24	Q760	D-11
D703	I-11	Q81	D-26	Q761	E-11
D704	J-12	Q82	D-26	Q762	F-13
D705	I-10	Q83	D-26	Q763	D-13
D706	G-10	Q84	C-26	Q764	E-11
D751	E-9	Q251	I-24	Q951	H-9
D752	F-10	Q252	J-26	Q952	I-9
D753	D-13	Q253	J-24	Q953	J-11
D901	J-19	Q254	J-25	Q954	J-11
D951	F-11	Q301	J-6	Q955	I-11
D952	G-9	Q302	J-6	Q956	I-10
D953	I-9	Q303	J-5	Q957	I-11
D954	I-10	Q304	I-6	Q958	I-10
D955	H-9	Q305	I-6	Q959	I-9
D956	I-9	Q306	I-6	Q960	J-10
D962	J-11	Q307	H-6		
D963	J-11	Q309	D-11		
D964	J-11	Q401	G-6		
D965	I-10	Q402	C-10		
D966	J-10	Q403	F-8		
D967	J-10	Q406	J-5		
D968	I-10	Q407	I-6		
D969	I-10	Q408	D-10		
D970	J-11	Q451	G-7		
D971	J-10	Q452	C-9		
D972	C-11	Q602	B-12		
D973	C-11	Q701	F-9		
D974	D-11	Q702	F-9		
D975	C-11	Q703	F-10		
		Q704	G-9		
IC21	E-25	Q705	H-10		
IC81	C-27	Q706	H-13		
IC251	J-25	Q707	G-10		
IC301	F-8	Q710	H-11		
IC302	H-7	Q711	H-11		
IC303	I-7	Q712	I-13		
IC304	E-8	Q713	G-13		
IC305	D-9	Q714	H-11		
IC306	E-7	Q715	H-10		
IC307	F-8	Q716	H-10		
IC308	E-7	Q717	H-10		
IC401	C-6	Q718	I-9		
IC402	C-8	Q751	E-9		
IC601	C-13	Q752	E-9		

Note:

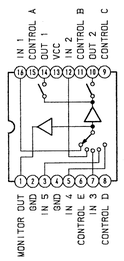
- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ⊡ indicates side identified with part number.
- *, *A, *B : See page 9 for Note on Caramic Filter (CF1, 2)
  Replacement.

CND: Canadian

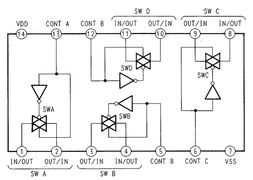


● IC Block Diagrams

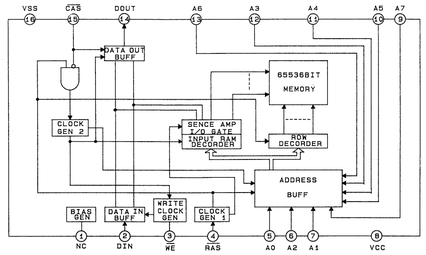
IC251 BA7625



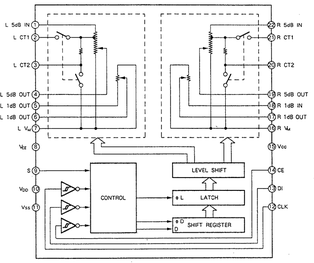
IC301 LC4966



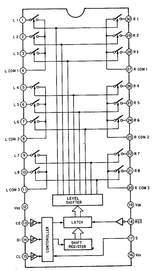
IC303 LM3364K-15



IC304 LC7535



IC402 LC7822



Note:

- ∗, ∗A, ∗B : See page 9 for Note on Caramic Filter (CF1, 2) Replacement.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

- △ : internal component.
- ▭ : nonflammable resistor.

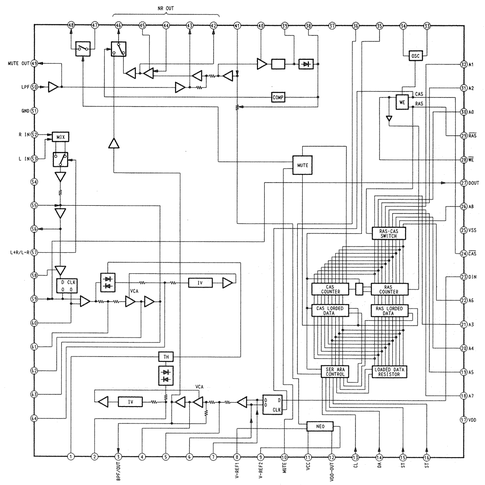
Note:	**Note:**
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line
- B− : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

CND: Canadian

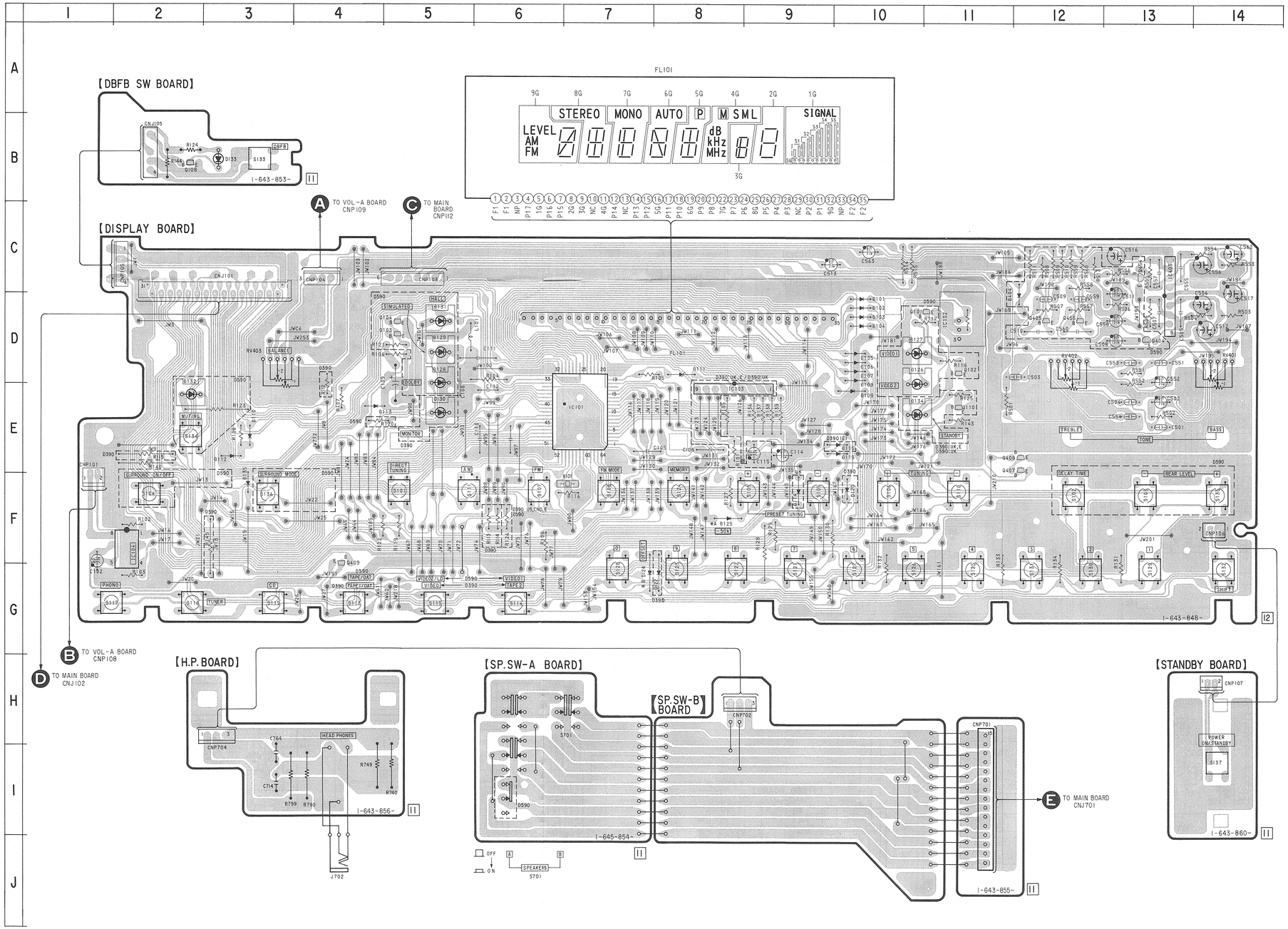
4-2. SCHEMATIC DIAGRAM-MAIN Section–

IC302 LV1001M

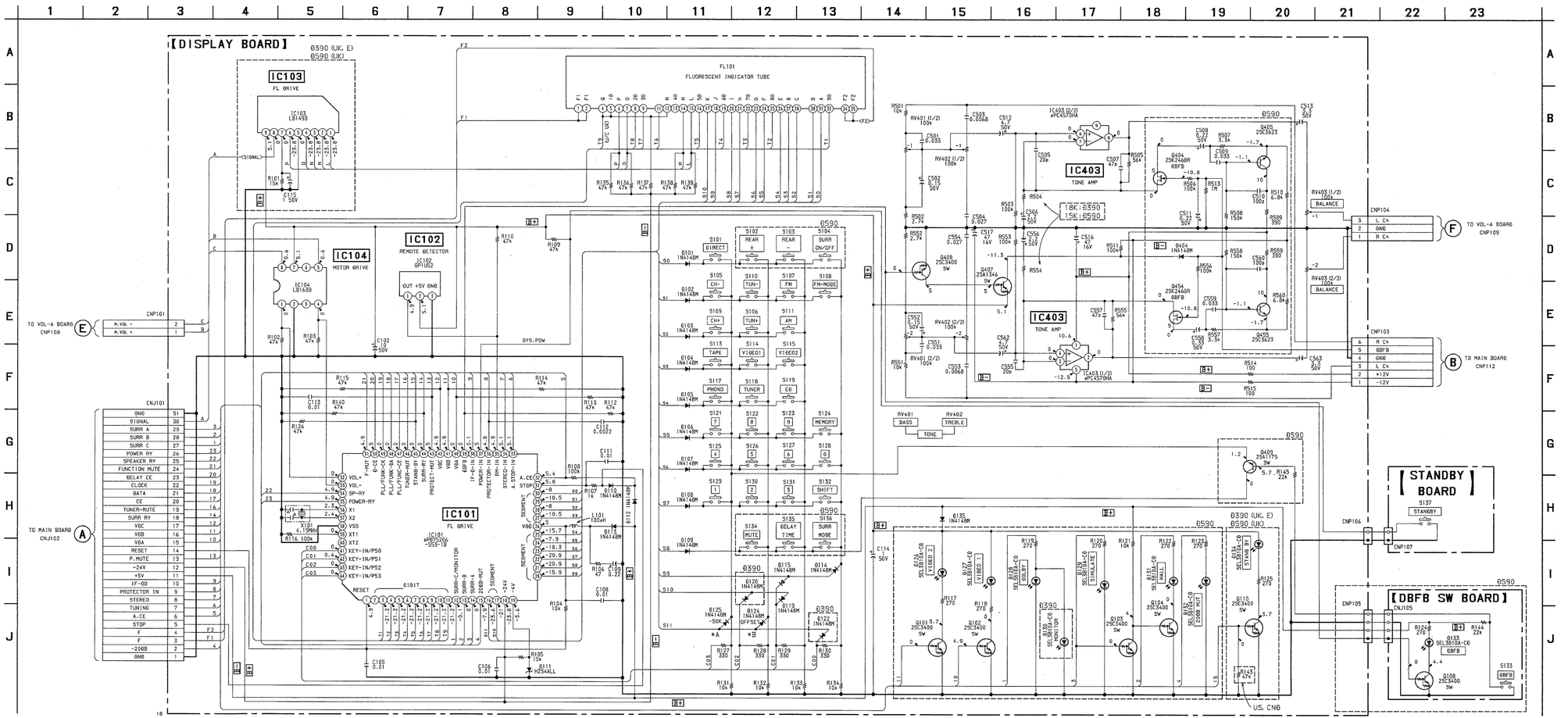


● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	D-10	IC101	E-7
D102	D-10	IC102	D-11
D103	D-10	IC103	E-8
D104	D-10	IC104	F-2
D105	D-10	IC403	C-13
D106	D-10		
D107	D-10	Q101	D-10
D108	D-10	Q102	D-11
D109	E-10	Q103	D-5
D110	E-3	Q104	D-5
D111	D-8	Q108	B-2
D112	E-3	Q110	E-11
D113	E-4	Q404	D-13
D114	F-9	Q405	D-12
D115	E-10	Q407	E-11
D119	E-10	Q408	E-11
D120	F-10	Q409	F-4
D122	G-8	Q454	C-13
D124	G-7	Q455	D-12
D125	F-8		
D126	D-10		
D127	D-10		
D128	D-5		
D129	D-5		
D130	E-5		
D131	D-5		
D132	E-2		
D133	B-3		
D134	E-10		
D135	F-3		
D404	C-11		

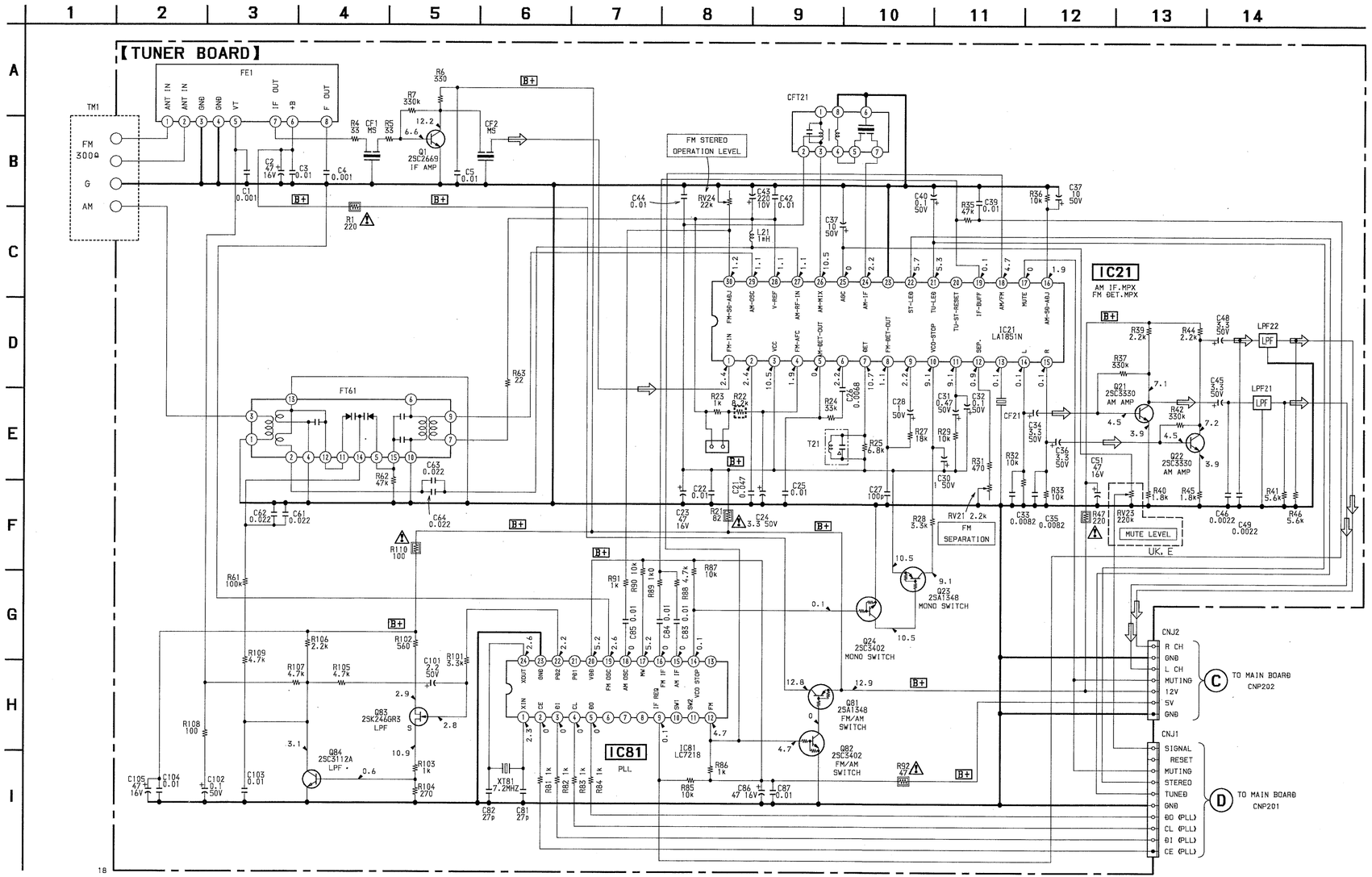


4-4. SCHEMATIC DIAGRAM-DISPLAY Section– · See page 15 Note.


【DISPLAY BOARD】
D390 (UK, E)
D590 (UK)
IC103
FL DRIVE
IC103 LB1495
FL101
FLUORESCENT INDICATOR TUBE
IC104
MOTOR DRIVE
IC104 LB1639
IC102
REMOTE DETECTOR
IC102 GP1U52
IC101
FL DRIVE
IC101 PD6004A-205
IC403
TONE AMP
IC403 (2/2) μPC4570HA
IC403 (1/2) μPC4570HA
IC403
TONE AMP
RV401 (1/2) 100k
RV402 (1/2) 100k
RV401 (2/2) 100k
RV402 (2/2) 100k
RV401
BASS
RV402
TREBLE
RV403 (1/2) 100k
BALANCE
RV403 (2/2) 100k
BALANCE
18K: D390
15K: D590
CNP101
TO VOL-A BOARD CNP108
CNJ101
TO MAIN BOARD CNJ102
CNP104
TO VOL-A BOARD CNP109
CNP103
TO MAIN BOARD CNP112
【STANDBY BOARD】
S137
STANDBY
CNP106
CNP107
【DBFB SW BOARD】
CNJ105
CNP105
S133
DBFB
US, CND
SYS.POW
S101 DIRECT
S102 REAR +
S103 REAR −
S104 SURR ON/OFF
S105 CH−
S106 TUN+
S107 FM
S108 FM-MODE
S109 CH+
S110 TUN−
S111 AM
S113 TAPE
S114 VIDEO1
S115 VIDEO2
S117 PHONO
S118 TUNER
S119 CD
S121 7
S122 8
S123 9
S124 MEMORY
S125 4
S126 5
S127 6
S128 0
S129 1
S130 2
S131 3
S132 SHIFT
S134 MUTE
S135 DELAY TIME
S136 SURR MODE
S101T
RESET
D101T
SURR-C-MONITOR
SURR-B
SURR-A
20dB-MUT
SEGMENT
A.CE
STOP
P.MUTE
-24V
+5V
IF-DD
PROTECTOR IN
STEREO
TUNING
A.CE
STOP
-20dB
GND
VOL+
VOL−
SP-RY
POWER-RY
X1
X2
VSS
XT1
XT2
KEY-IN/PS0
KEY-IN/PS1
KEY-IN/PS2
KEY-IN/PS3
F-MUT
PLL/FUNC-DI
PLL/FUNC-CK
PLL/FUNC-ST
STAND-BY
SURR-RY
PROTECT-OUT
VSC
VSB
VDA
IF-DD
PROTECTOR-IN
STEREO-IN
SEGMENT
VSB
VDA
SEGMENT
SEGMENT
SEGMENT

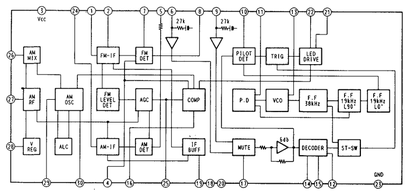
4-5. SCHEMATIC DIAGRAM-TUNER Section-

· See page 15 Note.

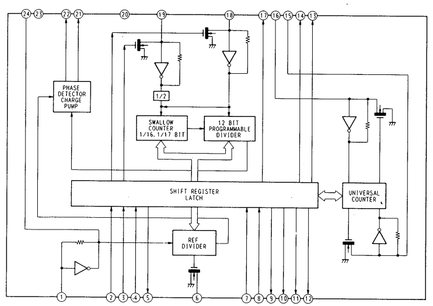


● IC Block Diagrams

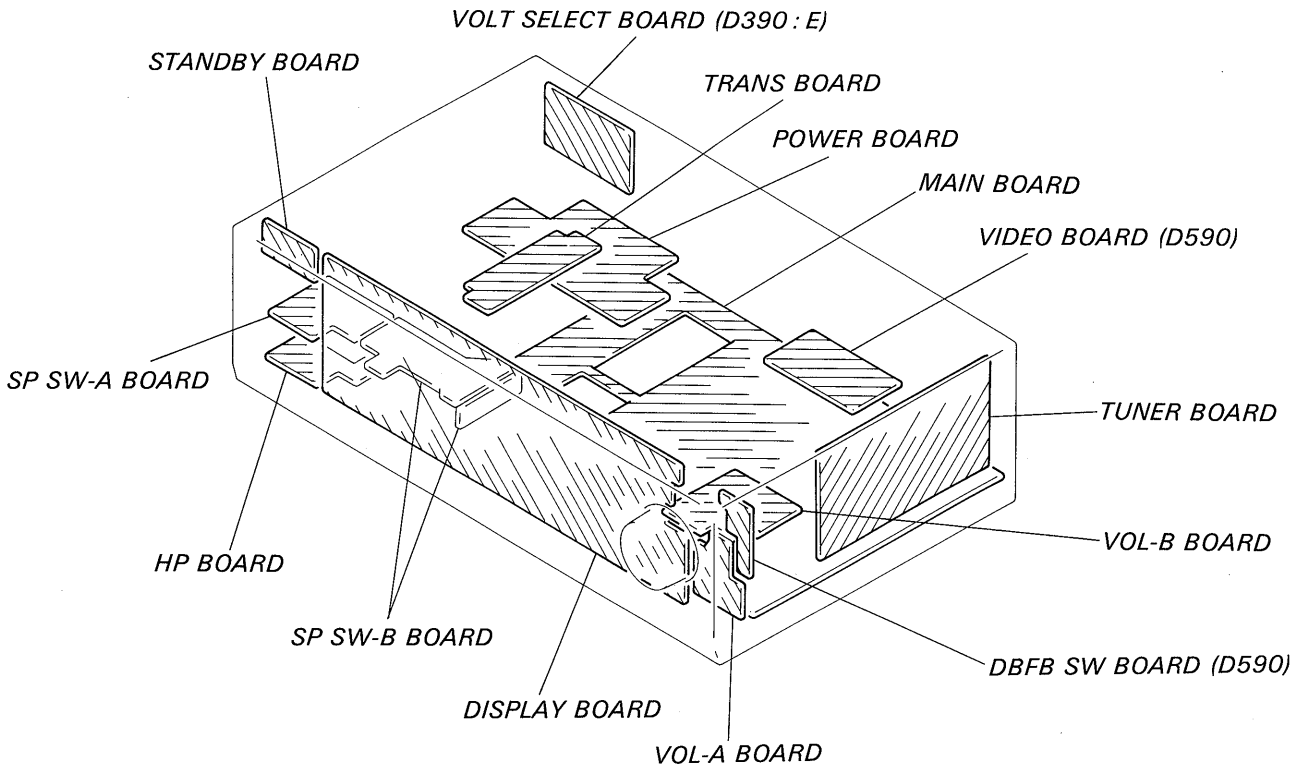
IC21 LA1851N



IC81 LC7218

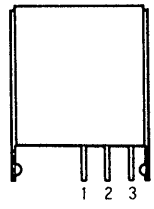


4-6. CIRCUIT BOARDS LOCATION



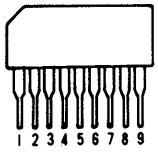
4-7. SEMICONDUCTOR LEAD LAYOUTS

GP1U52XB

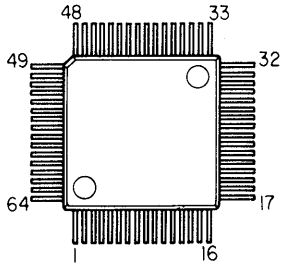


1 Vout
2 Vcc
3 GND

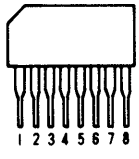
LB1493
μPC4570HA-1



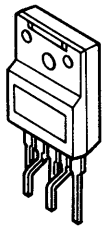
LV1001M



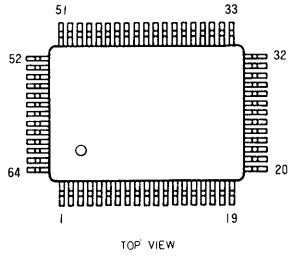
M5218AL



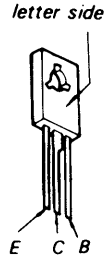
SI18752



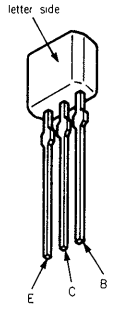
μPD75206GF-726-3BE



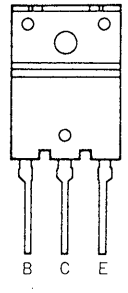
2SA1142-QPE
2SC2682-QPE
2SD809-K



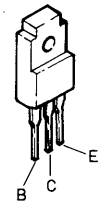
2SA1175-FEK
2SA1175-HFE
2SC2785-FEK
2SC2785-HFE



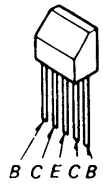
2SA1670-OPY-LF
2SB1371
2SD2064



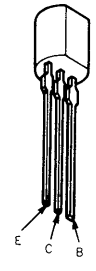
2SA1684-LK
2SC4431-LK



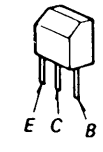
2SA979-FG



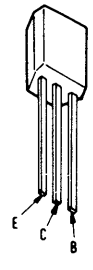
2SA988-PAFAEA



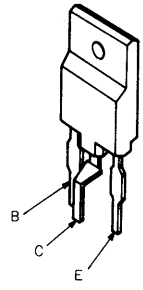
2SB734-34



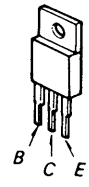
2SC2603-EF
2SC2669-OY
2SC3113-AB
DTA114ES
DTA124ES
DTC114ES
DTC124ES



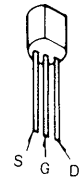
2SC4385-OPY-LF



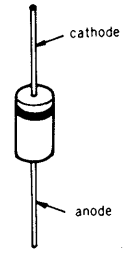
2SD2012



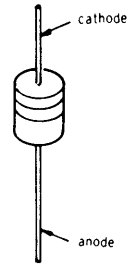
2SK246-GR3



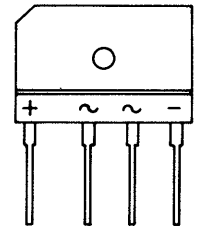
10E2N
1N4148M
UZ-12BSB
UZ-13BSB
UZ-4.3BSB
UZ-6.2BSC



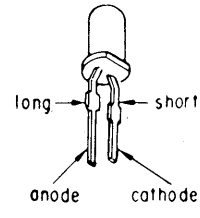
1SS120
HZS4ALL
HZS6C3L
UZ-27BSB



RBA402



SEL3210S-CD
SEL3810A-CD



SECTION 5
EXPLODED VIEWS

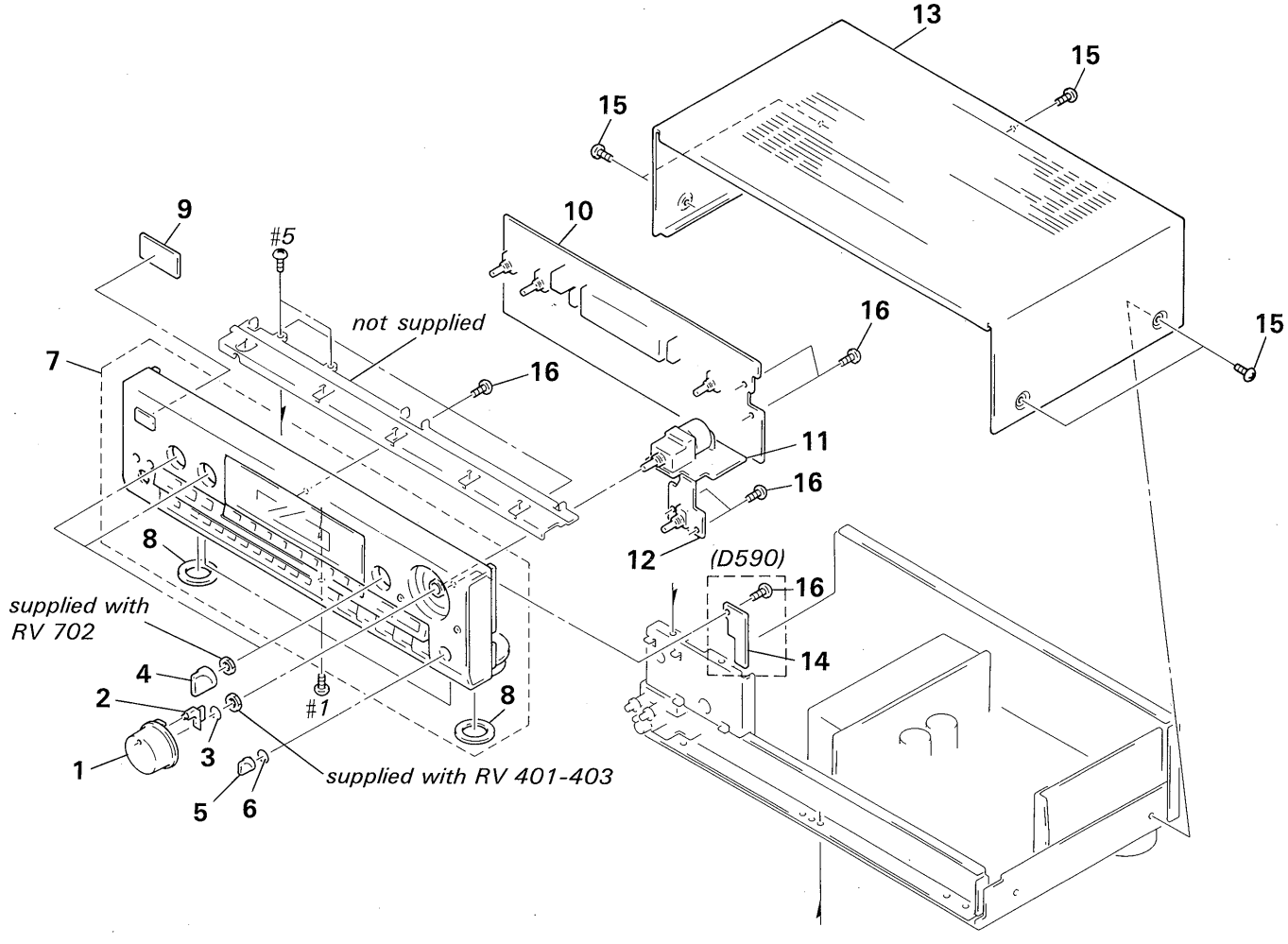
NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

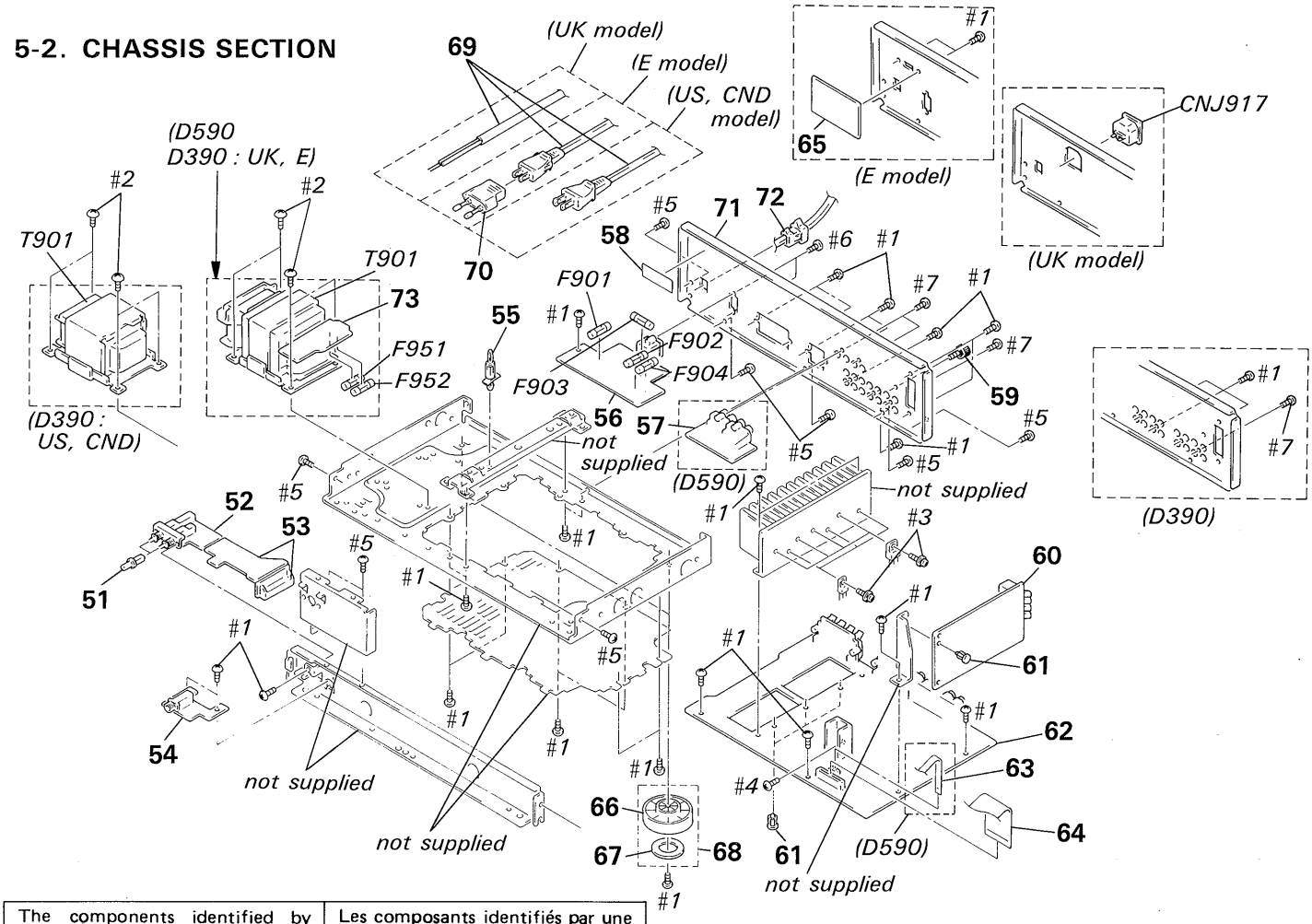
CND : Canadian

5-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	4-943-091-01	KNOB (VOL) (MASTER VOLUME)	
2	4-943-092-01	PLATE(VOL), LIGHT GUIDE	
3	3-350-426-01	SPRING, RING	
4	4-951-803-01	KNOB (DIA. 21), FLAT (BASS/TREBLE/BALANCE)	
5	4-925-014-11	KNOB (DIA. 10) (INPUT BALANCE)	
6	3-356-957-11	SPRING	
7	A-4325-686-A	PANEL ASSY, FRONT (D390:US, CND)	
7	A-4325-687-A	PANEL ASSY, FRONT (D390:UK, E)	
7	A-4325-688-A	PANEL ASSY, FRONT (D590:US, CND)	
7	A-4325-689-A	PANEL ASSY, FRONT (D590:UK)	
8	4-923-836-11	CUSHION	
* 9	1-643-860-11	STANDBY BOARD	
* 10	A-4347-770-A	DISPLAY BOARD, COMPLETE (D390:US, CND)	
* 10	A-4347-771-A	DISPLAY BOARD, COMPLETE (D390:UK)	
* 10	A-4347-772-A	DISPLAY BOARD, COMPLETE (D390:E)	
* 10	A-4347-785-A	DISPLAY BOARD, COMPLETE (D590:UK)	
* 10	A-4347-786-A	DISPLAY BOARD, COMPLETE (D590:US, CND)	
* 11	1-644-117-11	VOLUME-A BOARD (D390)	
* 11	1-643-851-11	VOLUME-A BOARD (D590)	
* 12	1-644-118-11	VOLUME-B BOARD (D390)	
* 12	1-643-852-11	VOLUME-B BOARD (D590)	
* 13	4-951-795-01	CASE	
* 14	1-643-853-11	DBFB SW BOARD (D590)	
15	3-704-366-01	SCREW (CASE) (M3X8)	
16	4-951-620-01	SCREW (2.6X8), +BVTP	

5-2. CHASSIS SECTION



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifé.

Ref. No.	Part No.	Description	Remark
51	4-951-801-01	BUTTON (S) (SPEAKERS)	
* 52	1-643-854-11	SP SW-A BOARD	
* 53	1-643-855-11	SP SW-B BOARD	
* 54	1-643-856-11	HP BOARD	
* 55	4-924-098-31	HOLDER, PC BOARD	
* 56	1-643-849-11	POWER BOARD	
* 57	1-643-850-11	VIDEO BOARD (D590)	
* 58	3-703-044-26	LABEL, CAUTION (D390:US, CND/D590:US, CND)	
59	4-947-010-01	SCREW, FEEDER FIXED	
* 60	A-4347-775-A	TUNER BOARD, COMPLETE (D390:E)	
60	A-4356-360-A	TUNER BOARD, COMPLETE (D390:US, CND/D590:US, CND)	
60	A-4356-361-A	TUNER BOARD, COMPLETE (D390:UK/D590:UK)	
61	4-812-134-11	RIVET NYLON, 3.5	
* 62	A-4347-762-A	MAIN BOARD, COMPLETE (D390:US, CND)	
* 62	A-4347-763-A	MAIN BOARD, COMPLETE (D390:UK, E)	
* 62	A-4347-776-A	MAIN BOARD, COMPLETE (D590:US, CND)	
* 62	A-4347-777-A	MAIN BOARD, COMPLETE (D590:UK)	
63	1-696-457-11	WIRE (FLAT TYPE) (5 CORE) (D590)	
64	1-696-456-11	WIRE (FLAT TYPE) (31 CORE)	
* 65	1-643-859-11	VOLT SELECT BOARD (D390:E)	
66	3-318-688-31	FOOT (F58175S) (D390:UK, E/D590:UK)	
66	3-318-688-51	FOOT (F58175S) (D390:US, CND/D590:US, CND)	
67	4-923-836-11	CUSHION	
68	X-4941-291-1	FOOT ASSY (F58175S) (D390:US, CND/D590:US, CND)	
68	X-4941-292-1	FOOT ASSY (F58175S) (D390:UK, E/D590:UK)	
⚠69	1-575-652-11	CORD, POWER (D390:UK/D590:UK)	
⚠69	1-575-653-11	CORD, POWER (D390:E)	
⚠69	1-690-609-11	CORD, POWER (D390:US, CND/D590:US, CND)	
⚠70	1-526-565-00	AC PLUG ADAPTOR (D390:E)	
* 71	4-951-791-01	PANEL, BACK (D590:US)	
* 71	4-951-791-11	PANEL, BACK (D590:CND)	
* 71	4-951-791-21	PANEL, BACK (D590:UK)	
* 71	4-951-791-31	PANEL, BACK (D390:E)	
* 71	4-951-791-41	PANEL, BACK (D390:US)	
* 71	4-951-791-51	PANEL, BACK (D390:CND)	
* 71	4-951-791-61	PANEL, BACK (D390:UK)	
72	3-703-571-11	BUSHING (S) (4516), CORD (D390:E)	
72	3-703-244-00	BUSHING (2104), CORD (D390:US, CND, UK/D590)	
* 73	1-643-858-11	TRANS BOARD (D390:UK, E/D590)	
⚠CNJ917	1-526-751-00	OUTLET, AC (D390:UK/D590:UK)	
⚠F901	1-532-286-00	FUSE, TIME LAG (T2.5AL) (D390:UK, E/D590:UK)	
⚠F901	1-576-107-11	FUSE (3.15A/250V) (D390:US, CND/D590:US, CND)	
⚠F902	1-532-259-00	FUSE, TIME LAG (T1.6AL) (D390:UK, E/D590:UK)	
⚠F902	1-576-109-11	FUSE (5A/125V) (D390:US, CND/D590:US, CND)	
⚠F903	1-532-286-00	FUSE, TIME LAG (T2.5AL) (D390:UK, E/D590:UK)	
⚠F904	1-532-259-00	FUSE, TIME LAG (T1.6AL) (D390:E)	
⚠F951	1-532-237-00	FUSE, TIME LAG (T3.15AL) (D590)	
⚠F952	1-532-237-00	FUSE, TIME LAG (T3.15AL) (D590)	
⚠T901	1-450-365-21	TRANSFORMER, POWER (D390:US)	
⚠T901	1-450-620-21	TRANSFORMER, POWER (D390:CND)	
⚠T901	1-450-833-11	TRANSFORMER, POWER (D590:US, CND)	
⚠T901	1-450-834-11	TRANSFORMER, POWER (D590:UK)	
⚠T901	1-450-835-11	TRANSFORMER, POWER (D390:E)	
⚠T901	1-450-934-11	TRANSFORMER, POWER (D390:UK)	

SECTION 6
ELECTRICAL PARTS LIST

DISPLAY **DBFB SW** **HP** **POWER** **SP SW-A** **SP SW-B**

STANDBY **TRANS** **VIDEO** **VOLT SELECT** **VOL-A** **VOL-B**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

CND:Canadian

Ref. No.	Part No.	Description	Remark
*	A-4347-770-A	DISPLAY BOARD, COMPLETE (D390:US, CND)	
*	A-4347-771-A	DISPLAY BOARD, COMPLETE (D390:UK)	
*	A-4347-772-A	DISPLAY BOARD, COMPLETE (D390:E)	
*	A-4347-785-A	DISPLAY BOARD, COMPLETE (D590:UK)	
*	A-4347-786-A	DISPLAY BOARD, COMPLETE (D590:US, CND)	
		**********	
*	1-643-853-11	DBFB SW BOARD (D590)	
		**********	
*	1-643-856-11	HP BOARD	
		********	
*	1-643-849-11	POWER BOARD	
		**********	
*	1-643-854-11	SP SW-A BOARD	
		**********	
*	1-643-855-11	SP SW-B BOARD	
		**********	
*	1-643-860-11	STANDBY BOARD	
		**********	
*	1-643-858-11	TRANS BOARD (D390:UK, E/D590)	
		**********	
*	1-643-850-11	VIDEO BOARD (D590)	
		**********	
*	1-643-859-11	VOLT SELECT BOARD (D390:E)	
		**********	
*	1-643-851-11	VOL-A BOARD (D590)	
*	1-644-117-11	VOL-A BOARD (D390)	
		**********	
*	1-643-852-11	VOL-B BOARD (D590)	
*	1-644-118-11	VOL-B BOARD (D390)	
		**********	
*	4-921-941-01	CUSHION (FL)	
*	4-942-204-01	PLATE, GROUND	
*	4-943-107-11	HOLDER (FL TUBE)	
	1-533-217-31	HOLDER, FUSE (D390:E)	
	1-540-038-11	OUTLET, AC (NONPOLAR) (1P) (D390:E)	

Ref. No.	Part No.	Description	Remark
*	1-564-509-11	PLUG, CONNECTOR 6P (D590)	
		< CAPACITOR >	
C102	1-126-157-11	ELECT 10uF 20% 16V	
C105	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C106	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C108	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C109	1-125-486-11	DOUBLE LAYERS 0.22F 5.5V	
C111	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C112	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C113	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C114	1-126-301-11	ELECT 1uF 20% 50V	
C115	1-126-301-11	ELECT 1uF 20% 50V (D390:UK, E/D590:UK)	
C251	1-124-927-11	ELECT 4.7uF 20% 100V (D590)	
C252	1-124-927-11	ELECT 4.7uF 20% 100V (D590)	
C253	1-126-103-11	ELECT 470uF 20% 16V (D590)	
C254	1-126-103-11	ELECT 470uF 20% 16V (D590)	
C255	1-124-477-11	ELECT 47uF 20% 25V (D590)	
C256	1-161-379-00	CERAMIC 0.01uF 20% 25V (D590)	
C436	1-136-163-00	FILM 0.068uF 5% 50V (D390)	
C438	1-124-927-11	ELECT 4.7uF 20% 100V	
C439	1-124-927-11	ELECT 4.7uF 20% 100V	
C486	1-136-163-00	FILM 0.068uF 5% 50V (D390)	
C501	1-130-489-00	MYLAR 0.033uF 5% 50V	
C502	1-124-250-00	ELECT 0.15uF 20% 50V	
C503	1-130-481-00	MYLAR 0.0068uF 5% 50V	
C504	1-130-488-00	MYLAR 0.027uF 5% 50V	
C505	1-162-206-31	CERAMIC 20PF 5% 50V	
C506	1-124-925-11	ELECT 2.2uF 20% 100V	
C507	1-162-215-31	CERAMIC 47PF 5% 50V	
C508	1-124-252-00	ELECT 0.33uF 20% 50V (D590)	
C509	1-130-489-00	MYLAR 0.033uF 5% 50V (D590)	
C510	1-162-282-31	CERAMIC 100PF 10% 50V (D590)	
C511	1-124-464-11	ELECT 0.22uF 20% 50V (D590)	
C512	1-124-927-11	ELECT 4.7uF 20% 100V	
C513	1-126-162-11	ELECT 3.3uF 20% 50V	
C515	1-124-925-11	ELECT 2.2uF 20% 100V (D590)	
C516	1-124-477-11	ELECT 47uF 20% 25V	
C517	1-124-477-11	ELECT 47uF 20% 25V	

DISPLAY **DBFB SW** **HP** **POWER** **SP SW-A** **SP SW-B**

STANDBY **TRANS** **VIDEO** **VOLT SELECT** **VOL-A** **VOL-B**

Ref. No.	Part No.	Description			Remark
C551	1-130-489-00	MYLAR	0.033uF	5%	50V
C552	1-124-250-00	ELECT	0.15uF	20%	50V
C553	1-130-481-00	MYLAR	0.0068uF	5%	50V
C554	1-130-488-00	MYLAR	0.027uF	5%	50V
C555	1-162-206-31	CERAMIC	20PF	5%	50V
C556	1-124-925-11	ELECT	2.2uF	20%	100V
C557	1-162-215-31	CERAMIC	47PF	5%	50V
C558	1-124-252-00	ELECT	0.33uF	20%	50V (D590)
C559	1-130-489-00	MYLAR	0.033uF	5%	50V (D590)
C560	1-162-282-31	CERAMIC	100PF	10%	50V (D590)
C562	1-124-927-11	ELECT	4.7uF	20%	100V
C563	1-126-162-11	ELECT	3.3uF	20%	50V
C714	1-164-089-11	CERAMIC	0.0022uF		50V
C764	1-164-089-11	CERAMIC	0.0022uF		50V
⚠C901	1-161-744-00	CERAMIC	0.01uF		400V
		< JACK >			
* CNJ101	1-568-873-11	SOCKET, CONNECTOR 31P			
* CNJ251	1-568-824-11	SOCKET, CONNECTOR 5P (D590)			
⚠CNJ917	1-540-057-11	OUTLET, AC (POLAR) (D390:US, CND/D590:US, CND)			
		< CONNECTOR >			
* CNP101	1-568-951-11	PIN, CONNECTOR 2P			
* CNP103	1-564-521-11	PLUG, CONNECTOR 6P			
* CNP104	1-564-518-11	PLUG, CONNECTOR 3P			
* CNP105	1-564-519-11	PLUG, CONNECTOR 4P (D590)			
* CNP106	1-568-951-11	PIN, CONNECTOR 2P			
* CNP107	1-568-951-11	PIN, CONNECTOR 2P			
* CNP108	1-568-951-11	PIN, CONNECTOR 2P			
* CNP109	1-564-506-11	PLUG, CONNECTOR 3P			
CNP701	1-573-109-11	PIN, CONNECTOR 15P			
* CNP702	1-564-518-11	PLUG, CONNECTOR 3P			
* CNP704	1-564-518-11	PLUG, CONNECTOR 3P			
* CNP705	1-564-508-11	PLUG, CONNECTOR 5P			
* CNP901	1-564-321-00	PIN, CONNECTOR 2P			
* CNP902	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P			
* CNP903	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P (UK)			
* CNP904	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P			
CNP905	1-564-320-00	PIN, CONNECTOR (B2P-VH) 2P (D390:E)			
* CNP906	1-564-241-00	PIN, CONNECTOR (B4P-VH) 4P (D390:E)			
* CNP907	1-564-241-00	PIN, CONNECTOR (B4P-VH) 4P (D390:E)			
* CNP908	1-564-321-00	PIN, CONNECTOR 2P (D390:E)			
* CNP910	1-564-687-11	PIN, CONNECTOR 3P (D390:E)			
CNP951	1-564-507-11	PLUG, CONNECTOR 4P			
* CNP955	1-564-905-11	PIN, CONNECTOR 9P (D590)			
* CNP955	1-564-243-00	PIN, CONNECTOR 6P (D390:UK, E)			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D101	8-719-987-63	DIODE 1N4148M	
D102	8-719-987-63	DIODE 1N4148M	
D103	8-719-987-63	DIODE 1N4148M	
D104	8-719-987-63	DIODE 1N4148M	
D105	8-719-987-63	DIODE 1N4148M	
D106	8-719-987-63	DIODE 1N4148M	
D107	8-719-987-63	DIODE 1N4148M	
D108	8-719-987-63	DIODE 1N4148M	
D109	8-719-987-63	DIODE 1N4148M	
D110	8-719-987-63	DIODE 1N4148M	
D111	8-719-985-53	DIODE HZS4ALL	
D112	8-719-987-63	DIODE 1N4148M	
D113	8-719-987-63	DIODE 1N4148M	
D114	8-719-987-63	DIODE 1N4148M	(D390:UK/D590:UK)
D115	8-719-987-63	DIODE 1N4148M	(D390:E)
D119	8-719-987-63	DIODE 1N4148M	(D590)
D120	8-719-987-63	DIODE 1N4148M	(D390)
D122	8-719-987-63	DIODE 1N4148M	(D390)
D124	8-719-987-63	DIODE 1N4148M	
D125	8-719-987-63	DIODE 1N4148M	
D126	8-719-313-72	LED SEL3810A-CD	(VIDEO2) (D590)
D127	8-719-313-72	LED SEL3810A-CD	(VIDEO1) (D590)
D128	8-719-313-72	LED SEL3810A-CD	(DOLBY) (D590)
D129	8-719-313-72	LED SEL3810A-CD	(SIMULATED) (D590)
D130	8-719-313-72	LED SEL3810A-CD	(MONITOR) (D390)
D131	8-719-313-72	LED SEL3810A-CD	(HALL) (D590)
D132	8-719-313-72	LED SEL3810A-CD	(MUTING) (D590)
D133	8-719-313-72	LED SEL3810A-CD	(DBFB) (D590)
D134	8-719-313-69	DIODE SEL3210S-CD	(STANDBY) (D390:UK, E/D590:UK)
D135	8-719-987-63	DIODE 1N4148M	
D201	8-719-987-63	DIODE 1N4148M	(D590)
D404	8-719-987-63	DIODE 1N4148M	(D590)
D901	8-719-987-63	DIODE 1N4148M	
		< FUSE >	
F901	1-533-217-31	HOLDER, FUSE	(D390:US, CND, UK, D590)
F902	1-533-217-31	HOLDER, FUSE	(D390:US, CND, UK, D590)
F903	1-533-217-31	HOLDER, FUSE	(D390:UK/D590:UK)
F951	1-533-217-31	HOLDER, FUSE	(D590)
F952	1-533-217-31	HOLDER, FUSE	(D590)
		< FILTER >	
FL101	1-519-731-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC101	8-759-083-97	IC uPD75206GF-726-3BE	
IC102	8-749-920-83	IC GP1U52XB	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

DISPLAY | DBFB SW | HP | POWER | SP SW-A | SP SW-B

STANDBY | TRANS | VIDEO | VOLT SELECT | VOL-A | VOL-B

Ref. No.	Part No.	Description	Remark
IC103	8-759-800-95	IC LB1493 (D390:UK, E/D590:UK)	
IC104	8-759-820-62	IC LB1639	
IC251	8-759-991-77	IC BA7625 (D590)	
IC403	8-759-112-93	IC uPC4570HA-1	
		< JACK >	
* J250	1-695-317-21	JACK, PIN 2P (VIDEO1 IN/OUT) (D590)	
* J251	1-695-317-21	JACK, PIN 2P (VIDEO2 IN/OUT) (D590)	
J402	1-691-887-11	JACK, PIN 6P (TAPE IN/TAPE OUT/VIDEO1 OUT)	
J702	1-568-515-21	JACK (LARGE TYPE) (HEADPHONES)	
		< COIL >	
L101	1-410-521-11	INDUCTOR 100uH	
L251	1-410-509-11	INDUCTOR 10uH (D590)	
		< TRANSISTOR >	
Q101	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q102	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q103	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q104	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q108	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q110	8-729-900-36	TRANSISTOR DTC124ES (D390:UK, E/D590:UK)	
Q251	8-729-119-77	TRANSISTOR 2SA1175-FEK (D590)	
Q252	8-729-119-77	TRANSISTOR 2SA1175-FEK (D590)	
Q253	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q254	8-729-119-77	TRANSISTOR 2SA1175-FEK (D590)	
Q404	8-729-202-67	TRANSISTOR 2SK246-GR3 (D590)	
Q405	8-729-620-05	TRANSISTOR 2SC2603-EF (D590)	
Q407	8-729-900-63	TRANSISTOR DTA124ES	
Q408	8-729-900-36	TRANSISTOR DTC124ES	
Q409	8-729-119-77	TRANSISTOR 2SA1175-FEK (D590)	
Q454	8-729-202-67	TRANSISTOR 2SK246-GR3 (D590)	
Q455	8-729-620-05	TRANSISTOR 2SC2603-EF (D590)	
		< RESISTOR >	
R101	1-249-431-11	CARBON 15K 5% 1/4W (D390:UK, E/D590:UK)	
R102	1-249-437-11	CARBON 47K 5% 1/4W	
R103	1-249-437-11	CARBON 47K 5% 1/4W	
R104	1-249-429-11	CARBON 10K 5% 1/4W	
R105	1-249-431-11	CARBON 15K 5% 1/4W	
R106	1-249-401-11	CARBON 47 5% 1/4W	
R107	1-249-417-11	CARBON 1K 5% 1/4W	
R108	1-249-441-11	CARBON 100K 5% 1/4W	
R109	1-249-437-11	CARBON 47K 5% 1/4W	
R112	1-249-437-11	CARBON 47K 5% 1/4W (D390)	
R113	1-249-437-11	CARBON 47K 5% 1/4W (D390)	
R114	1-249-437-11	CARBON 47K 5% 1/4W (D390)	
R115	1-249-437-11	CARBON 47K 5% 1/4W (D390)	
R116	1-249-441-11	CARBON 100K 5% 1/4W	
R117	1-249-410-11	CARBON 270 5% 1/4W (D590)	
R118	1-249-410-11	CARBON 270 5% 1/4W (D590)	
R119	1-249-410-11	CARBON 270 5% 1/4W	
R120	1-249-410-11	CARBON 270 5% 1/4W (D590)	
R121	1-249-429-11	CARBON 10K 5% 1/4W (D590)	
R122	1-249-410-11	CARBON 270 5% 1/4W (D590)	
R123	1-249-410-11	CARBON 270 5% 1/4W (D590)	
R124	1-249-410-11	CARBON 270 5% 1/4W (D590)	
R125	1-249-410-11	CARBON 270 5% 1/4W (D390:UK, E/D590:UK)	
R126	1-249-437-11	CARBON 47K 5% 1/4W (D390:US, CND, E, D590)	
R127	1-249-411-11	CARBON 330 5% 1/4W	
R128	1-249-411-11	CARBON 330 5% 1/4W	
R129	1-249-411-11	CARBON 330 5% 1/4W	
R130	1-249-411-11	CARBON 330 5% 1/4W	
R131	1-249-429-11	CARBON 10K 5% 1/4W	
R132	1-249-429-11	CARBON 10K 5% 1/4W	
R133	1-249-429-11	CARBON 10K 5% 1/4W	
R134	1-249-429-11	CARBON 10K 5% 1/4W	
R135	1-249-437-11	CARBON 47K 5% 1/4W	
R136	1-249-437-11	CARBON 47K 5% 1/4W	
R137	1-249-437-11	CARBON 47K 5% 1/4W	
R138	1-249-437-11	CARBON 47K 5% 1/4W	
R139	1-249-437-11	CARBON 47K 5% 1/4W	
R140	1-249-437-11	CARBON 47K 5% 1/4W	
R143	1-249-437-11	CARBON 47K 5% 1/4W (D590:US, CND)	
R144	1-249-433-11	CARBON 22K 5% 1/4W (D590)	
R145	1-249-433-11	CARBON 22K 5% 1/4W (D590)	
R251	1-247-804-11	CARBON 75 5% 1/4W (D590)	
R252	1-247-804-11	CARBON 75 5% 1/4W (D590)	
R253	1-247-804-11	CARBON 75 5% 1/4W (D590)	
R254	1-249-429-11	CARBON 10K 5% 1/4W (D590)	
R255	1-247-804-11	CARBON 75 5% 1/4W (D590)	
R256	1-249-429-11	CARBON 10K 5% 1/4W (D590)	
⚠R257	1-249-409-11	CARBON 220 5% 1/4W (D590)	
R258	1-249-405-11	CARBON 100 5% 1/4W (D590)	
R259	1-247-814-11	CARBON 200 5% 1/4W (D590)	
R260	1-249-405-11	CARBON 100 5% 1/4W (D590)	
R261	1-249-429-11	CARBON 10K 5% 1/4W (D590)	
R262	1-249-429-11	CARBON 10K 5% 1/4W (D590)	
R263	1-249-429-11	CARBON 10K 5% 1/4W (D590)	
R301	1-249-419-11	CARBON 1.5K 5% 1/4W (D590)	
R351	1-249-419-11	CARBON 1.5K 5% 1/4W (D590)	
R445	1-249-426-11	CARBON 5.6K 5% 1/4W (D390)	
R495	1-249-426-11	CARBON 5.6K 5% 1/4W (D390)	
R501	1-249-429-11	CARBON 10K 5% 1/4W	
R502	1-249-422-11	CARBON 2.7K 5% 1/4W	
R503	1-249-441-11	CARBON 100K 5% 1/4W	

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DISPLAY | DBFB SW | HP | POWER | SP SW-A | SP SW-B

STANDBY | TRANS | VIDEO | VOLT SELECT | VOL-A | VOL-B

Ref. No.	Part No.	Description			Remark
R504	1-249-431-11	CARBON	15K	5%	1/4W (D590)
R504	1-249-432-11	CARBON	18K	5%	1/4W (D390)
R505	1-249-438-11	CARBON	56K	5%	1/4W
R506	1-249-441-11	CARBON	100K	5%	1/4W (D590)
R507	1-249-423-11	CARBON	3.3K	5%	1/4W (D590)
R508	1-247-883-00	CARBON	150K	5%	1/4W (D590)
R509	1-249-412-11	CARBON	390	5%	1/4W (D590)
R510	1-249-427-11	CARBON	6.8K	5%	1/4W (D590)
R511	1-249-441-11	CARBON	100K	5%	1/4W
R513	1-247-903-00	CARBON	1M	5%	1/4W (D590)
R514	1-249-405-11	CARBON	100	5%	1/4W
R515	1-249-405-11	CARBON	100	5%	1/4W
R551	1-249-429-11	CARBON	10K	5%	1/4W
R552	1-249-422-11	CARBON	2.7K	5%	1/4W
R553	1-249-441-11	CARBON	100K	5%	1/4W
R554	1-249-431-11	CARBON	15K	5%	1/4W (D590)
R554	1-249-432-11	CARBON	18K	5%	1/4W (D390)
R555	1-249-438-11	CARBON	56K	5%	1/4W
R556	1-249-441-11	CARBON	100K	5%	1/4W (D590)
R557	1-249-423-11	CARBON	3.3K	5%	1/4W (D590)
R558	1-247-883-00	CARBON	150K	5%	1/4W (D590)
R559	1-249-412-11	CARBON	390	5%	1/4W (D590)
R560	1-249-427-11	CARBON	6.8K	5%	1/4W (D590)
R740	1-247-753-11	CARBON	1.2K	5%	1/2W
R749	1-247-753-11	CARBON	1.2K	5%	1/2W
R790	1-247-753-11	CARBON	1.2K	5%	1/2W
R799	1-247-753-11	CARBON	1.2K	5%	1/2W
R901	1-202-725-00	SOLID	3.3M	10%	1/2W (D390:US, CND/D590:US, CND)

< VARIABLE RESISTOR >

RV301	1-241-864-11	RES, VAR, CARBON 100K/100K (INPUT BALANCE) (D590)
RV301	1-241-851-11	RES, VAR, CARBON 100K/100K (LOUDNESS) (D390)
RV401	1-241-817-11	RES, VAR, CARBON 100K/100K (BASS)
RV402	1-241-817-11	RES, VAR, CARBON 100K/100K (TREBLE)
RV403	1-238-965-21	RES, VAR, CARBON 100K/100K (BALANCE)
RV702	1-241-413-11	RES, VAR, CARBON 100Kx3 (VOLUME) (D590)
RV702	1-241-850-11	RES, VAR, CARBON 100K/100K(VOLUME) (D390)

< RELAY >

⚠RY901	1-515-720-11	RELAY (D390:US, CND, E/D590:US, CND)
⚠RY901	1-515-738-11	RELAY, POWER

< SWITCH >

S101	1-554-303-21	SWITCH, TACTILE (DIRECT TUNING)
S102	1-554-303-21	SWITCH, TACTILE (REAR LEVEL +) (D590)
S103	1-554-303-21	SWITCH, TACTILE (REAR LEVEL -) (D590)
S104	1-554-303-21	SWITCH, TACTILE (SURROUND ON/OFF) (D590)
S105	1-554-303-21	SWITCH, TACTILE (PRESET TUNING -)
S106	1-554-303-21	SWITCH, TACTILE (TUNING +)
S107	1-554-303-21	SWITCH, TACTILE (FM)
S108	1-554-303-21	SWITCH, TACTILE (FM MODE)
S109	1-554-303-21	SWITCH, TACTILE (PRESET TUNING +)
S110	1-554-303-21	SWITCH, TACTILE (TUNING -)
S111	1-554-303-21	SWITCH, TACTILE (AM)
S113	1-554-303-21	SWITCH, TACTILE (TAPE1/DAT:D390, TAPE/DAT:D590)
S114	1-554-303-21	SWITCH, TACTILE (TAPE2:D390, VIDEO1:D590)
S115	1-554-303-21	SWITCH, TACTILE (VIDEO:D390, VIDEO2/LD:D590)
S117	1-554-303-21	SWITCH, TACTILE (PHONO)
S118	1-554-303-21	SWITCH, TACTILE (TUNER)
S119	1-554-303-21	SWITCH, TACTILE (CD)
S121	1-554-303-21	SWITCH, TACTILE (7)
S122	1-554-303-21	SWITCH, TACTILE (8)
S123	1-554-303-21	SWITCH, TACTILE (9)
S124	1-554-303-21	SWITCH, TACTILE (MEMORY)
S125	1-554-303-21	SWITCH, TACTILE (4)
S126	1-554-303-21	SWITCH, TACTILE (5)
S127	1-554-303-21	SWITCH, TACTILE (6)
S128	1-554-303-21	SWITCH, TACTILE (0)
S129	1-554-303-21	SWITCH, TACTILE (1)
S130	1-554-303-21	SWITCH, TACTILE (2)
S131	1-554-303-21	SWITCH, TACTILE (3)
S132	1-554-303-21	SWITCH, TACTILE (SHIFT)
S133	1-554-303-21	SWITCH, TACTILE (DBFB) (D590)
S134	1-554-303-21	SWITCH, TACTILE (MUTING) (D590)
S135	1-554-303-21	SWITCH, TACTILE (DELAY TIME) (D590)
S136	1-554-303-21	SWITCH, TACTILE (SURROUND MODE) (D590)
S137	1-554-303-21	SWITCH, TACTILE (POWER ON/STANDBY)
S701	1-571-854-21	SWITCH, PUSH (2 KEY) (SPEAKERS A/B) (D590)
S701	1-571-485-11	SWITCH, PUSH (2 KEY) (SPEAKERS A/B) (D390)
⚠S901	1-571-437-11	SWITCH, POWER VOLTAGE CHANGE (D390:E)

< TRANSFORMER >

⚠T902	1-450-358-11	TRANSFORMER, POWER (D390:UK, E/D590:UK)
⚠T902	1-450-361-11	TRANSFORMER, POWER (D390:US, CND/D590:US, CND)

< VARISTOR >

⚠VZ901	1-807-180-31	VARISTOR SNR-14A471U (D390:UK, E/D590:UK)
⚠VZ901	1-807-293-31	VARISTOR SNR-14A221U (D390:US, CND/D590:US, CND)

< VIBRATOR >

X101	1-577-101-11	VIBRATOR, CERAMIC (4.19MHz)

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MAIN

Ref. No.	Part No.	Description			Remark
*	A-4347-762-A	MAIN BOARD, COMPLETE (D390:US, CND)			
*	A-4347-763-A	MAIN BOARD, COMPLETE (D390:UK, E)			
*	A-4347-776-A	MAIN BOARD, COMPLETE (D590:US, CND)			
*	A-4347-777-A	MAIN BOARD, COMPLETE (D590:UK)			
		**********			
	4-812-134-00	RIVET NYLON, 3.5			
*	4-942-204-01	PLATE, GROUND (D390:US, CND/D590:US, CND)			
	4-953-350-01	PLATE, GROUND			
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C301	1-124-907-11	ELECT	10uF	20%	50V
C302	1-162-215-31	CERAMIC	47PF	5%	50V
C303	1-124-907-11	ELECT	10uF	20%	50V
C304	1-124-907-11	ELECT	10uF	20%	50V (D590)
C305	1-124-907-11	ELECT	10uF	20%	50V (D590)
C306	1-162-215-31	CERAMIC	47PF	5%	50V (D590)
C307	1-162-282-31	CERAMIC	100PF	10%	50V (D590)
C308	1-124-907-11	ELECT	10uF	20%	50V (D590)
C309	1-124-907-11	ELECT	10uF	20%	50V (D590)
C310	1-124-464-11	ELECT	0.22uF	20%	50V (D590)
C311	1-124-472-11	ELECT	470uF	20%	10V (D590)
C312	1-124-927-11	ELECT	4.7uF	20%	100V (D590)
C313	1-161-039-00	CERAMIC	0.001uF	10%	50V (D590)
C314	1-161-055-00	CERAMIC	0.022uF	10%	50V (D590)
C315	1-102-108-00	CERAMIC	150PF	10%	50V (D590)
C316	1-124-120-11	ELECT	220uF	20%	25V (D590)
C317	1-124-120-11	ELECT	220uF	20%	25V (D590)
C318	1-124-477-11	ELECT	47uF	20%	25V (D590)
C319	1-136-165-00	FILM	0.1uF	5%	50V (D590)
C320	1-161-379-00	CERAMIC	0.01uF	20%	25V (D590)
C321	1-124-120-11	ELECT	220uF	20%	25V (D590)
C322	1-164-159-11	CERAMIC	0.1uF		50V (D590)
C323	1-162-209-31	CERAMIC	27PF	5%	50V (D590)
C324	1-162-209-31	CERAMIC	27PF	5%	50V (D590)
C325	1-124-464-11	ELECT	0.22uF	20%	50V (D590)
C326	1-130-481-00	MYLAR	0.0068uF	5%	50V (D590)
C327	1-130-478-00	MYLAR	0.0039uF	5%	50V (D590)
C328	1-130-479-00	MYLAR	0.0047uF	5%	50V (D590)
C329	1-130-489-00	MYLAR	0.033uF	5%	50V (D590)
C330	1-124-768-11	ELECT	4.7uF	20%	50V (D590)
C331	1-124-903-11	ELECT	1uF	20%	50V (D590)
C332	1-124-768-11	ELECT	4.7uF	20%	50V (D590)
C333	1-102-115-00	CERAMIC	560PF	10%	50V (D590)
C334	1-130-480-00	MYLAR	0.0056uF	5%	50V (D590)
C335	1-130-481-00	MYLAR	0.0068uF	5%	50V (D590)
C336	1-124-907-11	ELECT	10uF	20%	50V (D590)
C337	1-102-116-00	CERAMIC	680PF	10%	50V (D590)
C338	1-136-167-00	FILM	0.15uF	5%	50V (D590)
C339	1-102-108-00	CERAMIC	150PF	10%	50V (D590)
C340	1-161-055-00	CERAMIC	0.022uF	10%	50V (D590)
C341	1-161-039-00	CERAMIC	0.001uF	10%	50V (D590)
C342	1-124-927-11	ELECT	4.7uF	20%	100V (D590)
C343	1-162-294-31	CERAMIC	0.001uF	10%	50V (D590)
C344	1-124-927-11	ELECT	4.7uF	20%	100V (D590)
C345	1-124-927-11	ELECT	4.7uF	20%	100V (D590)
C346	1-124-927-11	ELECT	4.7uF	20%	100V (D590)
C347	1-124-927-11	ELECT	4.7uF	20%	100V (D590)
C348	1-124-925-11	ELECT	2.2uF	20%	100V (D590)
C351	1-124-907-11	ELECT	10uF	20%	50V
C352	1-162-215-31	CERAMIC	47PF	5%	50V
C353	1-124-907-11	ELECT	10uF	20%	50V
C355	1-124-907-11	ELECT	10uF	20%	50V (D590)
C356	1-162-215-31	CERAMIC	47PF	5%	50V (D590)
C357	1-162-282-31	CERAMIC	100PF	10%	50V (D590)
C358	1-124-907-11	ELECT	10uF	20%	50V (D590)
C359	1-124-907-11	ELECT	10uF	20%	50V (D590)
C401	1-162-282-31	CERAMIC	100PF	10%	50V
C402	1-123-382-00	ELECT	3.3uF	20%	100V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-162-282-31	CERAMIC	100PF	10%	50V
C405	1-124-034-51	ELECT	33uF	20%	16V
C406	1-130-480-00	MYLAR	0.0056uF	5%	50V
C407	1-130-473-00	MYLAR	0.0015uF	5%	50V
C408	1-123-382-00	ELECT	3.3uF	20%	100V
C420	1-164-159-11	CERAMIC	0.1uF		50V
C422	1-124-478-11	ELECT	100uF	20%	25V
C423	1-124-478-11	ELECT	100uF	20%	25V
C430	1-162-294-31	CERAMIC	0.001uF	10%	50V
C431	1-130-471-00	MYLAR	0.001uF	5%	50V
C432	1-124-925-11	ELECT	2.2uF	20%	100V (D590)
C433	1-124-925-11	ELECT	2.2uF	20%	100V
C437	1-124-907-11	ELECT	10uF	20%	50V (D390)
C441	1-124-464-11	ELECT	0.22uF	20%	50V (D590)
C451	1-162-282-31	CERAMIC	100PF	10%	50V
C452	1-123-382-00	ELECT	3.3uF	20%	100V
C453	1-162-282-31	CERAMIC	100PF	10%	50V
C454	1-162-282-31	CERAMIC	100PF	10%	50V
C455	1-124-034-51	ELECT	33uF	20%	16V
C456	1-130-480-00	MYLAR	0.0056uF	5%	50V
C457	1-130-473-00	MYLAR	0.0015uF	5%	50V
C458	1-123-382-00	ELECT	3.3uF	20%	100V
C485	1-162-282-31	CERAMIC	100PF	10%	50V (D390:US, CND)
C601	1-124-927-11	ELECT	4.7uF	20%	100V (D590)
C602	1-162-282-31	CERAMIC	100PF	10%	50V (D590)
C603	1-162-282-31	CERAMIC	100PF	10%	50V (D590)

Ref. No.	Part No.	Description			Remark
C604	1-124-927-11	ELECT	4.7uF	20%	100V (D590)
C605	1-164-041-11	CERAMIC	5PF	0.25PF	50V (D590)
C609	1-130-487-00	MYLAR	0.022uF	5%	50V (D590)
C701	1-124-927-11	ELECT	4.7uF	20%	100V
C702	1-162-286-31	CERAMIC	220PF	10%	50V
C703	1-102-116-00	CERAMIC	680PF	10%	50V
C704	1-124-477-11	ELECT	47uF	20%	25V
C705	1-164-039-11	CERAMIC	3PF	0.25PF	50V
C706	1-102-989-00	CERAMIC	68PF	5%	500V
C707	1-102-989-00	CERAMIC	68PF	5%	500V
C708	1-124-120-11	ELECT	220uF	20%	25V
C709	1-124-477-11	ELECT	47uF	20%	25V
C711	1-164-159-11	CERAMIC	0.1uF		50V
C712	1-136-161-00	FILM	0.047uF	5%	50V
C713	1-136-161-00	FILM	0.047uF	5%	50V
C719	1-124-919-11	ELECT	220uF	20%	63V (D590)
C726	1-162-215-31	CERAMIC	47PF	5%	50V
C727	1-124-911-11	ELECT	220uF	20%	50V (D390)
C751	1-124-927-11	ELECT	4.7uF	20%	100V
C752	1-162-286-31	CERAMIC	220PF	10%	50V
C753	1-102-116-00	CERAMIC	680PF	10%	50V
C754	1-124-477-11	ELECT	47uF	20%	25V
C755	1-164-039-11	CERAMIC	3PF	0.25PF	50V
C756	1-102-989-00	CERAMIC	68PF	5%	500V
C757	1-102-989-00	CERAMIC	68PF	5%	500V
C758	1-124-120-11	ELECT	220uF	20%	25V
C759	1-124-477-11	ELECT	47uF	20%	25V
C761	1-124-472-11	ELECT	470uF	20%	10V
C762	1-136-161-00	FILM	0.047uF	5%	50V
C763	1-136-161-00	FILM	0.047uF	5%	50V
C776	1-162-215-31	CERAMIC	47PF	5%	50V
C801	1-164-159-11	CERAMIC	0.1uF		50V (D590)
C805	1-164-159-11	CERAMIC	0.1uF		50V (D590)
C951	1-106-375-12	MYLAR	0.022uF	5%	200V
C952	1-106-375-12	MYLAR	0.022uF	5%	200V
C953	1-128-591-11	ELECT	6800uF	20%	56V (D590)
C953	1-128-506-11	ELECT	6800uF	20%	50V (D390)
C954	1-128-591-11	ELECT	6800uF	20%	56V (D590)
C954	1-128-506-11	ELECT	6800uF	20%	50V (D390)
C955	1-124-478-11	ELECT	100uF	20%	25V
C956	1-124-910-11	ELECT	47uF	20%	50V
C957	1-124-477-11	ELECT	47uF	20%	25V
C958	1-124-910-11	ELECT	47uF	20%	50V
C959	1-124-907-11	ELECT	10uF	20%	50V
C960	1-161-494-00	CERAMIC	0.022uF		25V
C961	1-161-494-00	CERAMIC	0.022uF		25V
C962	1-124-927-11	ELECT	4.7uF	20%	100V
C963	1-124-962-11	ELECT	2200uF	20%	25V (D590)
C964	1-124-962-11	ELECT	2200uF	20%	25V (D590)
C965	1-106-367-00	MYLAR	0.01uF	5%	200V (D590)
C966	1-106-367-00	MYLAR	0.01uF	5%	200V (D590)
C975	1-124-477-11	ELECT	47uF	20%	25V
C976	1-124-477-11	ELECT	47uF	20%	25V
C977	1-124-903-11	ELECT	1uF	20%	50V
C978	1-124-464-11	ELECT	0.22uF	20%	50V
C979	1-124-902-00	ELECT	0.47uF	20%	50V
C980	1-124-903-11	ELECT	1uF	20%	50V
C981	1-161-494-00	CERAMIC	0.022uF		25V
C982	1-161-494-00	CERAMIC	0.022uF		25V
C983	1-161-494-00	CERAMIC	0.022uF		25V
C984	1-124-557-11	ELECT	1000uF	20%	25V
C985	1-130-487-00	MYLAR	0.022uF	5%	50V

< JACK >

* CNJ102	1-568-845-11	SOCKET, CONNECTOR 31P	
* CNJ252	1-568-824-11	SOCKET, CONNECTOR 5P	(D590)
CNJ701	1-573-095-11	SOCKET, CONNECTOR 15P	

< CONNECTOR >

* CNP112	1-564-509-11	PLUG, CONNECTOR 6P	
* CNP201	1-506-608-11	PIN, CONNECTOR 10P	
* CNP202	1-560-532-00	PIN, CONNECTOR 7P	
* CNP711	1-568-951-11	PIN, CONNECTOR 2P	(D590:UK)
CNP952	1-564-507-11	PLUG, CONNECTOR 4P	
* CNP954	1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P	
* CNP956	1-564-506-11	PLUG, CONNECTOR 3P	
* CNP957	1-560-061-00	PIN, CONNECTOR 3P	(D590)

< DIODE >

D401	8-719-987-63	DIODE	1N4148M
D403	8-719-987-63	DIODE	1N4148M (D390)
D602	8-719-987-63	DIODE	1N4148M (D590)
D603	8-719-987-63	DIODE	1N4148M (D590)
D701	8-719-933-41	DIODE	HZS6C3L
D702	8-719-987-63	DIODE	1N4148M
D703	8-719-987-63	DIODE	1N4148M
D704	8-719-912-20	DIODE	1SS120
D705	8-719-987-63	DIODE	1N4148M
D706	8-719-987-63	DIODE	1N4148M (D590)
D751	8-719-933-41	DIODE	HZS6C3L
D752	8-719-987-63	DIODE	1N4148M
D753	8-719-987-63	DIODE	1N4148M
D951	8-719-312-09	DIODE	RBA-402
D952	8-719-010-78	DIODE	UZ-13BSB
D953	8-719-011-07	DIODE	UZ-27BSB
D954	8-719-987-63	DIODE	1N4148M
D955	8-719-010-74	DIODE	UZ-12BSB

MAIN

Ref. No.	Part No.	Description	Remark
D956	8-719-010-29	DIODE UZ-4.3BSB	
D962	8-719-010-47	DIODE UZ-6.2BSC	
D963	8-719-933-41	DIODE HZS6C3L	
D964	8-719-985-53	DIODE HZS4ALL	
D965	8-719-987-63	DIODE 1N4148M	
D966	8-719-987-63	DIODE 1N4148M	
D967	8-719-987-63	DIODE 1N4148M	
D968	8-719-987-63	DIODE 1N4148M	
D969	8-719-987-63	DIODE 1N4148M	
D970	8-719-987-63	DIODE 1N4148M	
D971	8-719-987-63	DIODE 1N4148M	
D972	8-719-200-77	DIODE 10E2N (D590)	
D973	8-719-200-77	DIODE 10E2N (D590)	
D974	8-719-200-77	DIODE 10E2N (D590)	
D975	8-719-200-77	DIODE 10E2N (D590)	
		< IC >	
IC301	8-759-801-01	IC LC4966 (D590)	
IC302	8-759-823-63	LV1001M (D590)	
IC303	8-759-821-13	IC LM3364K-15 (D590)	
IC304	8-759-820-11	IC LC7535 (D590)	
IC305	8-759-634-50	IC M5218AL (D590)	
IC306	8-759-634-50	IC M5218AL	
IC307	8-759-634-50	IC M5218AL (D590)	
IC308	8-759-634-50	IC M5218AL (D590)	
IC401	8-759-112-93	IC uPC4570HA-1	
IC402	8-759-805-14	IC LC7822	
IC601	8-759-502-31	IC SI18752 (D590)	
		< JACK >	
J401	1-695-188-21	JACK, PIN 4P (PHONO/CD)	
J403	1-695-188-21	JACK, PIN 4P (VIDEO1 IN/VIDEO2 IN) (D590)	
J405	1-695-188-21	JACK, PIN 4P (TAPE1 IN/OUT) (D390)	
J406	1-695-188-21	JACK, PIN 4P (VIDEO IN/OUT) (D390)	
J407	1-695-188-21	JACK, PIN 4P (TAPE2 IN/OUT) (D390)	
		< COIL >	
L301	1-410-521-11	INDUCTOR 100uH (D590)	
L601	1-420-872-00	COIL, AIR CORE (D590)	
L701	1-420-872-00	COIL, AIR CORE	
L751	1-420-872-00	COIL, AIR CORE	
		< TRANSISTOR >	
Q301	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q302	8-729-900-63	TRANSISTOR DTA124ES (D590)	
Q303	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q304	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q305	8-729-900-36	TRANSISTOR DTC124ES (D590)	
Q306	8-729-900-63	TRANSISTOR DTA124ES (D590)	
Q307	8-729-209-15	TRANSISTOR 2SD2012 (D590)	
Q309	8-729-141-30	TRANSISTOR 2SC3623A-LK (D590)	
Q401	8-729-141-30	TRANSISTOR 2SC3623A-LK (D590)	
Q402	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q403	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q406	8-729-900-63	TRANSISTOR DTA124ES	
Q407	8-729-900-63	TRANSISTOR DTA124ES (D590)	
Q451	8-729-141-30	TRANSISTOR 2SC3623A-LK (D590)	
Q452	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q453	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q602	8-729-119-79	TRANSISTOR 2SC2785-FEK (D590)	
Q701	8-729-620-18	TRANSISTOR 2SA979-FG	
Q702	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q704	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q705	8-729-141-06	TRANSISTOR 2SA1142-QPE	
Q706	8-729-209-15	TRANSISTOR 2SD2012	
Q707	8-729-141-05	TRANSISTOR 2SC2682-QPE	
Q710	8-729-141-46	TRANSISTOR 2SC4431-LK	
Q711	8-729-141-37	TRANSISTOR 2SA1684-LK	
Q712	8-729-321-57	TRANSISTOR 2SC4385-OPY-LF (D590)	
Q712	8-729-016-17	TRANSISTOR 2SD2064 (D390)	
Q713	8-729-321-58	TRANSISTOR 2SA1670-OPY-LF (D590)	
Q713	8-729-016-06	TRANSISTOR 2SB1371 (D390)	
Q714	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q715	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q716	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q717	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q718	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q751	8-729-620-18	TRANSISTOR 2SA979-FG	
Q752	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q753	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q754	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q755	8-729-141-06	TRANSISTOR 2SA1142-QPE	
Q756	8-729-209-15	TRANSISTOR 2SD2012	
Q757	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q760	8-729-141-46	TRANSISTOR 2SC4431-LK	
Q761	8-729-141-37	TRANSISTOR 2SA1684-LK	
Q762	8-729-321-57	TRANSISTOR 2SC4385-OPY-LF (D590)	
Q762	8-729-016-07	TRANSISTOR 2SD2064 (D390)	
Q763	8-729-321-58	TRANSISTOR 2SA1670-OPY-LF (D590)	
Q763	8-729-016-06	TRANSISTOR 2SB1371 (D390)	
Q764	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q951	8-729-209-15	TRANSISTOR 2SD2012	
Q952	8-729-140-97	TRANSISTOR 2SB734-34	
Q953	8-729-180-92	TRANSISTOR 2SD809-K	
Q954	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q955	8-729-119-76	TRANSISTOR 2SA1175-HFE	

Ref. No.	Part No.	Description				Remark
Q956	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q957	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q958	8-729-900-36	TRANSISTOR	DTC124ES			
Q959	8-729-904-39	TRANSISTOR	DTC114TS			
Q960	8-729-620-05	TRANSISTOR	2SC2603-EF			
		< RESISTOR >				
R302	1-247-887-00	CARBON	220K	5%	1/4W	
R303	1-247-887-00	CARBON	220K	5%	1/4W	
R304	1-249-417-11	CARBON	1K	5%	1/4W	(D590)
R304	1-249-416-11	CARBON	820	5%	1/4W	(D390)
R305	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R306	1-247-887-00	CARBON	220K	5%	1/4W	(D590)
R307	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R308	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R309	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R310	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R311	1-247-895-00	CARBON	470K	5%	1/4W	(D590)
R312	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R313	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R314	1-249-437-11	CARBON	47K	5%	1/4W	(D590)
R315	1-249-437-11	CARBON	47K	5%	1/4W	(D590)
R316	1-249-428-11	CARBON	8.2K	5%	1/4W	(D590)
R317	1-249-423-11	CARBON	3.3K	5%	1/4W	(D590)
R318	1-249-425-11	CARBON	4.7K	5%	1/4W	(D590)
R319	1-249-430-11	CARBON	12K	5%	1/4W	(D590)
R320	1-247-903-00	CARBON	1M	5%	1/4W	(D590)
R321	1-249-405-11	CARBON	100	5%	1/4W	(D590)
R322	1-249-437-11	CARBON	47K	5%	1/4W	(D590)
R323	1-249-431-11	CARBON	15K	5%	1/4W	(D590)
R324	1-249-428-11	CARBON	8.2K	5%	1/4W	(D590)
R325	1-249-423-11	CARBON	3.3K	5%	1/4W	(D590)
R326	1-249-428-11	CARBON	8.2K	5%	1/4W	(D590)
R327	1-249-428-11	CARBON	8.2K	5%	1/4W	(D590)
R328	1-249-436-11	CARBON	39K	5%	1/4W	(D590)
R332	1-247-887-00	CARBON	220K	5%	1/4W	(D590)
R333	1-249-426-11	CARBON	5.6K	5%	1/4W	(D590)
R334	1-249-435-11	CARBON	33K	5%	1/4W	(D590)
R335	1-247-887-00	CARBON	220K	5%	1/4W	(D590)
R336	1-247-887-00	CARBON	220K	5%	1/4W	(D590)
R337	1-249-417-11	CARBON	1K	5%	1/4W	(D590)
R352	1-247-887-00	CARBON	220K	5%	1/4W	
R353	1-247-887-00	CARBON	220K	5%	1/4W	
R354	1-249-417-11	CARBON	1K	5%	1/4W	(D590)
R354	1-249-416-11	CARBON	820	5%	1/4W	(D390)
R355	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R361	1-247-895-00	CARBON	470K	5%	1/4W	(D590)
R362	1-249-429-11	CARBON	10K	5%	1/4W	(D590)

Ref. No.	Part No.	Description				Remark
R363	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R387	1-249-417-11	CARBON	1K	5%	1/4W	(D590)
R401	1-249-411-11	CARBON	330	5%	1/4W	
⚠R402	1-249-409-11	CARBON	220	5%	1/4W	
R403	1-249-417-11	CARBON	1K	5%	1/4W	(D390:UK, E, D590)
R404	1-249-425-11	CARBON	4.7K	5%	1/4W	
⚠R405	1-249-409-11	CARBON	220	5%	1/4W	
R405	1-249-417-11	CARBON	1K	5%	1/4W	(D390:US, CND)
⚠R406	1-249-409-11	CARBON	220	5%	1/4W	(D590)
R407	1-249-425-11	CARBON	4.7K	5%	1/4W	
R413	1-249-437-11	CARBON	47K	5%	1/4W	
R414	1-247-897-11	CARBON	560K	5%	1/4W	
R415	1-249-416-11	CARBON	820	5%	1/4W	
R416	1-247-897-11	CARBON	560K	5%	1/4W	
R417	1-249-437-11	CARBON	47K	5%	1/4W	
R418	1-249-417-11	CARBON	1K	5%	1/4W	
R419	1-247-897-11	CARBON	560K	5%	1/4W	
R420	1-249-417-11	CARBON	1K	5%	1/4W	
R421	1-247-838-00	CARBON	2K	5%	1/4W	(D590)
R421	1-249-408-11	CARBON	180	5%	1/4W	(D390)
R422	1-249-405-11	CARBON	100	5%	1/4W	(D590)
R423	1-249-441-11	CARBON	100K	5%	1/4W	(D590)
R424	1-249-422-11	CARBON	2.7K	5%	1/4W	(D590)
R425	1-249-425-11	CARBON	4.7K	5%	1/4W	
R426	1-249-437-11	CARBON	47K	5%	1/4W	
R427	1-249-437-11	CARBON	47K	5%	1/4W	
R428	1-249-425-11	CARBON	4.7K	5%	1/4W	
R429	1-249-437-11	CARBON	47K	5%	1/4W	
R430	1-249-437-11	CARBON	47K	5%	1/4W	
R431	1-249-425-11	CARBON	4.7K	5%	1/4W	(D390)
R432	1-247-883-00	CARBON	150K	5%	1/4W	
R433	1-247-883-00	CARBON	150K	5%	1/4W	
R434	1-249-425-11	CARBON	4.7K	5%	1/4W	
R435	1-247-883-00	CARBON	150K	5%	1/4W	(D590)
R436	1-249-417-11	CARBON	1K	5%	1/4W	(D390)
R437	1-249-437-11	CARBON	47K	5%	1/4W	
R438	1-249-437-11	CARBON	47K	5%	1/4W	(D590:UK)
R438	1-249-429-11	CARBON	10K	5%	1/4W	
R439	1-249-437-11	CARBON	47K	5%	1/4W	
R440	1-249-437-11	CARBON	47K	5%	1/4W	
R441	1-249-413-11	CARBON	470	5%	1/4W	
R442	1-249-437-11	CARBON	47K	5%	1/4W	
R444	1-249-437-11	CARBON	47K	5%	1/4W	
R446	1-249-412-11	CARBON	390	5%	1/4W	(D390)
R451	1-249-411-11	CARBON	330	5%	1/4W	
⚠R452	1-249-409-11	CARBON	220	5%	1/4W	
R453	1-249-417-11	CARBON	1K	5%	1/4W	(D390:UK, E, D590)
R454	1-249-425-11	CARBON	4.7K	5%	1/4W	
⚠R455	1-249-409-11	CARBON	220	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN

Ref. No.	Part No.	Description				Remark
R455	1-249-417-11	CARBON	1K	5%	1/4W	(D390:US, CND)
⚠R456	1-249-409-11	CARBON	220	5%	1/4W	(D590)
R457	1-249-425-11	CARBON	4.7K	5%	1/4W	
R463	1-249-437-11	CARBON	47K	5%	1/4W	
R464	1-247-897-11	CARBON	560K	5%	1/4W	
R465	1-249-416-11	CARBON	820	5%	1/4W	
R466	1-247-897-11	CARBON	560K	5%	1/4W	
R467	1-249-437-11	CARBON	47K	5%	1/4W	
R468	1-249-417-11	CARBON	1K	5%	1/4W	
R469	1-247-897-11	CARBON	560K	5%	1/4W	
R470	1-249-417-11	CARBON	1K	5%	1/4W	
R471	1-247-838-00	CARBON	2K	5%	1/4W	(D590)
R471	1-249-408-11	CARBON	180	5%	1/4W	(D390)
R472	1-249-405-11	CARBON	100	5%	1/4W	(D590)
R481	1-249-425-11	CARBON	4.7K	5%	1/4W	(D390)
R486	1-249-417-11	CARBON	1K	5%	1/4W	(D390)
R601	1-249-417-11	CARBON	1K	5%	1/4W	(D590)
R602	1-249-439-11	CARBON	68K	5%	1/4W	(D590)
R603	1-249-417-11	CARBON	1K	5%	1/4W	(D590)
R604	1-249-439-11	CARBON	68K	5%	1/4W	(D590)
⚠R607	1-217-151-00	RES, METAL PLATE			0.22	(D590)
⚠R608	1-249-393-11	CARBON	10	5%	1/4W	(D590)
⚠R609	1-249-393-11	CARBON	10	5%	1/4W	(D590)
⚠R610	1-249-393-11	CARBON	10	5%	1/4W	(D590)
R611	1-249-441-11	CARBON	100K	5%	1/4W	(D590)
R612	1-249-429-11	CARBON	10K	5%	1/4W	(D590)
R613	1-249-441-11	CARBON	100K	5%	1/4W	(D590)
R614	1-249-435-11	CARBON	33K	5%	1/4W	(D590)
R614	1-247-891-00	CARBON	330K	5%	1/4W	(D390)
R615	1-247-808-11	CARBON	110	5%	1/4W	(D590)
R616	1-247-808-11	CARBON	110	5%	1/4W	(D590)
R701	1-249-417-11	CARBON	1K	5%	1/4W	
R702	1-249-434-11	CARBON	27K	5%	1/4W	
R703	1-249-435-11	CARBON	33K	5%	1/4W	
R704	1-249-421-11	CARBON	2.2K	5%	1/4W	
R705	1-249-426-11	CARBON	5.6K	5%	1/4W	
R706	1-249-414-11	CARBON	560	5%	1/4W	
R707	1-249-423-11	CARBON	3.3K	5%	1/4W	
R708	1-249-411-11	CARBON	330	5%	1/4W	
⚠R709	1-249-409-11	CARBON	220	5%	1/4W	
⚠R710	1-249-409-11	CARBON	220	5%	1/4W	
⚠R711	1-249-409-11	CARBON	220	5%	1/4W	
R712	1-249-435-11	CARBON	33K	5%	1/4W	
⚠R713	1-249-397-11	CARBON	22	5%	1/4W	
R714	1-249-427-11	CARBON	6.8K	5%	1/4W	
R715	1-249-406-11	CARBON	120	5%	1/4W	
⚠R716	1-249-397-11	CARBON	22	5%	1/4W	
⚠R717	1-249-393-11	CARBON	10	5%	1/4W	
⚠R718	1-249-393-11	CARBON	10	5%	1/4W	

Ref. No.	Part No.	Description				Remark
⚠R719	1-249-393-11	CARBON	10	5%	1/4W	(D390:UK, E)
⚠R720	1-249-393-11	CARBON	10	5%	1/4W	(D390:UK, E)
⚠R723	1-247-745-11	CARBON	330	5%	1/2W	
⚠R724	1-249-393-11	CARBON	10	5%	1/4W	
⚠R725	1-249-393-11	CARBON	10	5%	1/4W	
⚠R726	1-217-611-00	RES, METAL PLATE			0.1	
⚠R727	1-217-611-00	RES, METAL PLATE			0.1	
R728	1-249-417-11	CARBON	1K	5%	1/4W	
R729	1-249-431-11	CARBON	15K	5%	1/4W	
R730	1-249-435-11	CARBON	33K	5%	1/4W	(D590)
R730	1-249-429-11	CARBON	10K	5%	1/4W	
R731	1-249-441-11	CARBON	100K	5%	1/4W	
R732	1-249-417-11	CARBON	1K	5%	1/4W	
R733	1-249-435-11	CARBON	33K	5%	1/4W	
R734	1-249-427-11	CARBON	6.8K	5%	1/4W	
⚠R735	1-249-397-11	CARBON	22	5%	1/4W	
⚠R736	1-249-397-11	CARBON	22	5%	1/4W	
⚠R737	1-249-393-11	CARBON	10	5%	1/4W	
⚠R738	1-249-393-11	CARBON	10	5%	1/4W	
R739	1-247-808-11	CARBON	110	5%	1/4W	(D590)
R739	1-249-410-11	CARBON	270	5%	1/4W	(D390)
R741	1-249-441-11	CARBON	100K	5%	1/4W	(D590)
R742	1-249-427-11	CARBON	6.8K	5%	1/4W	(D590)
R743	1-249-441-11	CARBON	100K	5%	1/4W	
R744	1-249-429-11	CARBON	10K	5%	1/4W	
R745	1-249-399-11	CARBON	33	5%	1/4W	
R751	1-249-417-11	CARBON	1K	5%	1/4W	
R752	1-249-434-11	CARBON	27K	5%	1/4W	
R753	1-249-435-11	CARBON	33K	5%	1/4W	
R754	1-249-421-11	CARBON	2.2K	5%	1/4W	
R755	1-249-426-11	CARBON	5.6K	5%	1/4W	
R756	1-249-414-11	CARBON	560	5%	1/4W	
R757	1-249-423-11	CARBON	3.3K	5%	1/4W	
R758	1-249-411-11	CARBON	330	5%	1/4W	
⚠R759	1-249-409-11	CARBON	220	5%	1/4W	
⚠R760	1-249-409-11	CARBON	220	5%	1/4W	
⚠R761	1-249-409-11	CARBON	220	5%	1/4W	
R762	1-249-435-11	CARBON	33K	5%	1/4W	
⚠R763	1-249-397-11	CARBON	22	5%	1/4W	
R764	1-249-427-11	CARBON	6.8K	5%	1/4W	
R765	1-249-406-11	CARBON	120	5%	1/4W	
⚠R766	1-249-397-11	CARBON	22	5%	1/4W	
⚠R767	1-249-393-11	CARBON	10	5%	1/4W	
⚠R768	1-249-393-11	CARBON	10	5%	1/4W	
⚠R773	1-247-745-11	CARBON	330	5%	1/2W	
⚠R774	1-249-393-11	CARBON	10	5%	1/4W	
⚠R775	1-249-393-11	CARBON	10	5%	1/4W	
⚠R776	1-217-611-00	RES, METAL PLATE			0.1	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN TUNER

Ref. No.	Part No.	Description				Remark
⚠R777	1-217-611-00	RES, METAL PLATE				0.1
R778	1-249-417-11	CARBON	1K	5%	1/4W	
R779	1-249-431-11	CARBON	15K	5%	1/4W	
R780	1-249-435-11	CARBON	33K	5%	1/4W	(D590)
R781	1-249-440-11	CARBON	82K	5%	1/4W	
R783	1-249-417-11	CARBON	1K	5%	1/4W	
⚠R785	1-249-397-11	CARBON	22	5%	1/4W	
⚠R786	1-249-397-11	CARBON	22	5%	1/4W	
⚠R787	1-249-393-11	CARBON	10	5%	1/4W	
⚠R788	1-249-393-11	CARBON	10	5%	1/4W	
R799	1-247-808-11	CARBON	110	5%	1/4W	(D590)
R799	1-249-410-11	CARBON	270	5%	1/4W	(D390)
R801	1-249-412-11	CARBON	390	5%	1/4W	
R803	1-249-414-11	CARBON	560	5%	1/4W	(D590)
R804	1-247-895-00	CARBON	470K	5%	1/4W	(D390)
R851	1-249-412-11	CARBON	390	5%	1/4W	
R854	1-247-895-00	CARBON	470K	5%	1/4W	(D390)
⚠R952	1-215-889-00	METAL OXIDE	330	5%	2W F	(D590)
R952	1-247-743-11	CARBON	20	5%	1/2W F	(D390)
R953	1-249-422-11	CARBON	2.7K	5%	1/4W	
R954	1-249-423-11	CARBON	3.3K	5%	1/4W	
⚠R955	1-216-446-00	METAL OXIDE	18	5%	2W F	(D590)
⚠R955	1-216-448-11	METAL OXIDE	39	5%	2W F	(D390)
R956	1-249-405-11	CARBON	100	5%	1/4W	
⚠R957	1-249-409-11	CARBON	220	5%	1/4W	
⚠R958	1-249-409-11	CARBON	220	5%	1/4W	
R959	1-249-441-11	CARBON	100K	5%	1/4W	
R960	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R963	1-249-395-11	CARBON	15	5%	1/4W	
R964	1-249-423-11	CARBON	3.3K	5%	1/4W	
R965	1-249-437-11	CARBON	47K	5%	1/4W	
R966	1-249-429-11	CARBON	10K	5%	1/4W	
R967	1-249-429-11	CARBON	10K	5%	1/4W	
R968	1-249-417-11	CARBON	1K	5%	1/4W	
R969	1-249-429-11	CARBON	10K	5%	1/4W	
R970	1-249-426-11	CARBON	5.6K	5%	1/4W	
R971	1-249-417-11	CARBON	1K	5%	1/4W	
R972	1-249-426-11	CARBON	5.6K	5%	1/4W	
R973	1-249-416-11	CARBON	820	5%	1/4W	
R974	1-249-425-11	CARBON	4.7K	5%	1/4W	
R975	1-249-437-11	CARBON	47K	5%	1/4W	
R976	1-249-396-11	CARBON	18	5%	1/6W	(D390)
		< RELAY >				
RY401	1-515-614-11	RELAY				(D390)
RY601	1-515-626-11	RELAY				(D590)
RY701	1-515-533-11	RELAY				(D390)
RY701	1-515-626-11	RELAY				(D590)

Ref. No.	Part No.	Description				Remark
		< TERMINAL >				
TM601	1-537-240-11	TERMINAL BOARD (CHECKER PIN)				(D590)
TM701	1-537-376-11	TERMINAL BOARD (SP)				
		< TEST PIN >				
* TP1	1-560-060-00	PIN, CONNECTOR 2P				
* TP2	1-560-060-00	PIN, CONNECTOR 2P				
		< VIBRATOR >				
X301	1-567-132-00	OSCILLATOR, CERAMIC	8.00MHz			(D590)
**********						
	A-4356-360-A	TUNER BOARD, COMPLETE				(D390:US, CND/D590:US, CND)
	A-4356-361-A	TUNER BOARD, COMPLETE				(UK)
*	A-4347-775-A	TUNER BOARD, COMPLETE				(D390:E)
		**********				
		< CAPACITOR >				
C1	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C2	1-124-477-11	ELECT	47uF	20%	25V	
C3	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C4	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C5	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C10	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C21	1-161-021-11	CERAMIC	0.047uF	10%	25V	
C22	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C23	1-124-477-11	ELECT	47uF	20%	25V	
C24	1-123-382-00	ELECT	3.3uF	20%	100V	
C25	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C26	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C27	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C28	1-124-903-11	ELECT	1uF	20%	50V	
C30	1-124-903-11	ELECT	1uF	20%	50V	
C31	1-124-902-00	ELECT	0.47uF	20%	50V	
C32	1-124-463-00	ELECT	0.1uF	20%	50V	
C33	1-130-481-00	MYLAR	0.0068uF	5%	50V	
						(D390:UK/D590:UK)
C33	1-130-482-00	MYLAR	0.0082uF	5%	50V	
						(D390:US, CND, E/D590:US, CND)
C34	1-123-382-00	ELECT	3.3uF	20%	100V	
C35	1-130-481-00	MYLAR	0.0068uF	5%	50V	
						(D390:UK/D590:UK)
C35	1-130-482-00	MYLAR	0.0082uF	5%	50V	
						(D390:US, CND, E/D590:US, CND)
C36	1-123-382-00	ELECT	3.3uF	20%	100V	
C37	1-124-907-11	ELECT	10uF	20%	50V	
C39	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C40	1-124-463-00	ELECT	0.1uF	20%	50V	
C41	1-124-927-11	ELECT	4.7uF	20%	100V	

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TUNER

Ref. No.	Part No.	Description			Remark
C42	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C43	1-126-176-11	ELECT	220uF	20%	10V
C44	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C45	1-123-382-00	ELECT	3.3uF	20%	100V
C46	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C48	1-123-382-00	ELECT	3.3uF	20%	100V
C49	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C51	1-124-477-11	ELECT	47uF	20%	25V
C61	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C62	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C63	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C64	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C81	1-102-961-00	CERAMIC	27PF	5%	50V
C82	1-102-961-00	CERAMIC	27PF	5%	50V
C83	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C84	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C85	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C86	1-124-477-11	ELECT	47uF	20%	25V
C87	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C101	1-124-925-11	ELECT	2.2uF	20%	100V
C102	1-124-463-00	ELECT	0.1uF	20%	50V
C104	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C105	1-124-477-11	ELECT	47uF	20%	25V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC			
CF21	1-577-075-11	OSCILLATOR, CERAMIC			
		< COMPOSITION CIRCUIT BLOCK >			
CFT21	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)			
		< CONNECTOR >			
* CN1	1-565-483-11	CONNECTOR, BOARD TO BOARD 7P (D390:E)			
* CN2	1-565-486-11	CONNECTOR, BOARD TO BOARD 10P (D390:E)			
		< JACK >			
* CNJ1	1-565-486-11	CONNECTOR, BOARD TO BOARD 10P (D390:US, CND, UK/D590:US, CND, UK)			
* CNJ2	1-565-483-11	CONNECTOR, BOARD TO BOARD 7P (D390:US, CND, UK/D590:US, CND, UK)			
		< FRONTEND >			
FE1	1-465-006-11	FRONT END (FM) (2 GANG)			
FE61	1-236-461-11	ENCAPSULATED COMPONENT			
		< IC >			
IC21	8-759-821-45	IC LA1851N			
IC81	8-759-820-91	IC LC7218			
		< COIL >			
L21	1-410-494-11	INDUCTOR	1MMH		
		< FILTER >			
LPF21	1-235-164-00	FILTER, LOW PASS			
LPF22	1-235-164-00	FILTER, LOW PASS			
		< TRANSISTOR >			
Q1	8-729-230-XX	TRANSISTOR	2SC2669-OY		
Q21	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q22	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q23	8-729-900-61	TRANSISTOR	DTA114ES		
Q24	8-729-900-80	TRANSISTOR	DTC114ES		
Q25	8-729-900-80	TRANSISTOR	DTC114ES (D390:E)		
Q81	8-729-900-61	TRANSISTOR	DTA114ES		
Q82	8-729-900-80	TRANSISTOR	DTC114ES		
Q83	8-729-202-67	TRANSISTOR	2SK246-GR3		
Q84	8-729-230-93	TRANSISTOR	2SC3113-AB		
		< RESISTOR >			
⚠R1	1-249-409-11	CARBON	220	5%	1/4W
R4	1-216-013-00	METAL CHIP	33	5%	1/10W
R5	1-216-013-00	METAL CHIP	33	5%	1/10W
R6	1-216-037-00	METAL CHIP	330	5%	1/10W
R7	1-216-109-00	METAL CHIP	330K	5%	1/10W
R21	1-249-404-00	CARBON	82	5%	1/4W
R22	1-249-462-11	CARBON	22K (D390:UK, E/D590:UK)	5%	1/4W
R22	1-247-724-11	CARBON	8.2K (D390:US, CND/D590:US, CND)	5%	1/4W
R23	1-216-049-00	METAL CHIP	1K	5%	1/10W
R24	1-216-085-00	METAL CHIP	33K	5%	1/10W
R25	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R27	1-249-461-11	CARBON	18K	5%	1/4W
R28	1-247-719-11	CARBON	3.3K	5%	1/4W
R29	1-216-073-00	METAL CHIP	10K	5%	1/10W
R31	1-216-041-00	METAL CHIP	470	5%	1/10W
R32	1-216-073-00	METAL CHIP	10K	5%	1/10W
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W
R35	1-216-089-00	METAL CHIP	47K	5%	1/10W
R36	1-216-073-00	METAL CHIP	10K	5%	1/10W
R37	1-216-109-00	METAL CHIP	330K	5%	1/10W
R39	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R40	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R41	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R42	1-216-109-00	METAL CHIP	330K	5%	1/10W
R44	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

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Ref. No.	Part No.	Description			Remark
R45	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R46	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
⚠R47	1-249-409-11	CARBON	220	5%	1/4W
R61	1-216-097-00	METAL CHIP	100K	5%	1/10W
R62	1-216-089-00	METAL CHIP	47K	5%	1/10W
R63	1-216-009-00	METAL CHIP	22	5%	1/10W
R81	1-216-049-00	METAL CHIP	1K	5%	1/10W
R82	1-216-049-00	METAL CHIP	1K	5%	1/10W
R83	1-216-049-00	METAL CHIP	1K	5%	1/10W
R84	1-216-049-00	METAL CHIP	1K	5%	1/10W
R85	1-216-073-00	METAL CHIP	10K	5%	1/10W
R86	1-216-049-00	METAL CHIP	1K	5%	1/10W
R87	1-216-073-00	METAL CHIP	10K	5%	1/10W
R88	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R89	1-216-049-00	METAL CHIP	1K	5%	1/10W
R90	1-216-073-00	METAL CHIP	10K	5%	1/10W
R91	1-216-049-00	METAL CHIP	1K	5%	1/10W
R92	1-249-401-11	CARBON	47	5%	1/4W
R101	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R102	1-216-043-00	METAL CHIP	560	5%	1/10W
R103	1-216-049-00	METAL CHIP	1K	5%	1/10W
R104	1-216-035-00	METAL CHIP	270	5%	1/10W
R105	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R106	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R107	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R108	1-216-025-00	METAL CHIP	100	5%	1/10W
R109	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R110	1-249-405-11	CARBON	100	5%	1/4W
		< VARIABLE RESISTOR >			
RV21	1-238-015-11	RES, ADJ, CARBON 4.7K			
RV21	1-238-599-11	RES, ADJ, CARBON 4.7K			
RV23	1-238-021-11	RES, ADJ, CARBON 220K			(D390:UK, E/D590:UK)
RV23	1-238-604-11	RES, ADJ, CARBON 220K			(D390:UK, E/D590:UK)
RV24	1-238-017-11	RES, ADJ, CARBON 22K			
RV24	1-238-601-11	RES, ADJ, CARBON 22K			
		< TRANSFORMER >			
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR			
		< TERMINAL >			
* TM1	1-537-288-11	TERMINAL BOARD, ANTENNA (PAL)			(D390:UK/D590:UK)
* TM1	1-537-264-11	TERMINAL BOARD			(D390:US, CND, E/D590:US, CND)

Ref. No.	Part No.	Description	Remark
		< TEST PIN >	
* TP1	1-560-060-00	PIN, CONNECTOR 2P	
		< VIBRATOR >	
XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)	
**********			
		MISCELLANEOUS	
		**********	
63	1-696-457-11	WIRE (FLAT TYPE) (5 CORE)	(D590)
64	1-696-456-11	WIRE (FLAT TYPE) (31 CORE)	
⚠69	1-575-652-11	CORD, POWER	(D390:UK/D590:UK)
⚠69	1-575-653-11	CORD, POWER	(D390:E)
⚠69	1-690-609-11	CORD, POWER	(D390:US, CND/D590:US, CND)
⚠70	1-526-565-00	AC PLUG ADAPTOR	(D390:E)
⚠CNJ917	1-526-751-00	OUTLET, AC	(D390:UK/D590:UK)
⚠F901	1-532-286-00	FUSE, TIME LAG (T2.5AL)	(D390:UK, E/D590:UK)
⚠F901	1-576-107-11	FUSE (3.15A/250V)	(D390:US, CND/D590:US, CND)
⚠F902	1-532-259-00	FUSE, TIME LAG (T1.6AL)	(D390:UK, E/D590:UK)
⚠F902	1-576-109-11	FUSE (5A/125V)	(D390:US, CND/D590:US, CND)
⚠F903	1-532-286-00	FUSE, TIME LAG (T2.5AL)	(D390:UK, E/D590:UK)
⚠F904	1-532-259-00	FUSE, TIME LAG (T1.6AL)	(D390:E)
⚠F951	1-532-237-00	FUSE, TIME LAG (T3.15AL)	(D590)
⚠F952	1-532-237-00	FUSE, TIME LAG (T3.15AL)	(D590)
⚠T901	1-450-365-21	TRANSFORMER, POWER	(D390:US)
⚠T901	1-450-620-21	TRANSFORMER, POWER	(D390:CND)
⚠T901	1-450-833-11	TRANSFORMER, POWER	(D590:US, CND)
⚠T901	1-450-834-11	TRANSFORMER, POWER	(D590:UK)
⚠T901	1-450-835-11	TRANSFORMER, POWER	(D390:E)
⚠T901	1-450-934-11	TRANSFORMER, POWER	(D390:UK)
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-465-423-11	REMOTE COMMANDER (RM-S103)	(D390:US, UK, E)
	1-501-374-11	ANTENNA, LOOP	
	1-501-536-11	ANTENNA	(D390:UK/D590:UK)
	1-693-100-11	COMMANDER, STANDARD (RM-U222)	(D590)
	1-693-101-11	COMMANDER, STANDARD (RM-U223)	(D390:CND)
	2-181-754-01	COVER, BATTERY (RM-S103)	(D390:US, UK, E)
	3-707-584-31	COVER, BATTERY (RM-U222/U223)	(D390:CND/D590)
	3-755-122-21	MANUAL, INSTRUCTION (ENGLISH)	(D590)

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Ref. No.	Part No.	Description	Remark
	3-755-122-31	MANUAL, INSTRUCTION (FRENCH)	(D590:CND)
	3-755-123-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE)	(D390:E)
	3-755-123-21	MANUAL, INSTRUCTION (ENGLISH)	(D390:US, CND, UK)
	3-755-123-31	MANUAL, INSTRUCTION (FRENCH)	(D390:CND)
	3-755-506-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	(D390:CND)
*	4-952-676-01	CUSHION	
*	4-952-677-01	INDIVIDUAL CARTON (D590:US, CND)	
*	4-952-678-01	INDIVIDUAL CARTON (D590:UK)	
*	4-952-679-01	INDIVIDUAL CARTON (D390:US, CND)	
*	4-952-680-01	INDIVIDUAL CARTON (D390:UK)	
*	4-952-681-01	INDIVIDUAL CARTON (D390:E)	

****

****
HARDWARE LIST
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#1	7-682-548-09	SCREW +BVTT 3X8 (S)
#2	7-682-560-04	SCREW +BVTT 4X6 (S)
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3
#4	7-682-548-04	SCREW +BVTT 3X8 (S)
#5	7-682-547-09	SCREW +BVTT 3X6 (S)
#6	7-685-646-79	SCREW +BTP 3X8 TYPE2 N-S
#7	7-621-849-00	SCREW, TAPPING

9-957-254-11

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